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ABSTRACT

In response to a mandate from the California State Legislature, the California Board of Corrections conducted a three-phase research study in preparation for the revision and standardization of the current state standards for hiring and training corrections personnel. This document presents the vision and hearing guidelines for the occupations of corrections officers, juvenile counselors, and probation officers. The first section of the document is a brief description of the job analysis and the methods used to develop the vision and hearing guidelines. A summary of job analysis data for each of the three occupations is given in terms of the following dimensions: for vision--near visual acuity, far visual acuity, visual color discrimination, and peripheral vision; for hearing--sound detection, sound localization, sound recognition, sound discrimination, and speech comprehension in quiet and noisy environments. Expert review, revision, and implementation of the guidelines are described next. The appendices, comprising the majority of the document, include (1) charts defining each dimension, its measurement, and cutoff scores; (2) examples of job tasks and critical incidents involving vision and hearing for each occupation; (3) matrices summarizing relevant vision and hearing dimension; (4) preliminary vision and hearing guidelines providing a proposed standard and rationale for each dimension, organized by occupation; and (5) revised versions of the vision and hearing guidelines. (YLB)

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STANDARDS AND TRAINING
FOR CORRECTIONS PROGRAM

# STC

BOARD OF CORRECTIONS

# VISION AND HEARING

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# Development of Entry-Level Vision and Hearing Guidelines for Corrections Officers, Juvenile Counselors, and Probation Officers

The Standards & Training for Corrections Program
of the
California State Board of Corrections

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## Project Background

Based upon several studies of the California probation and corrections systems, the California State Board of Corrections recommended to the legislature that a state agency assume responsibility for the analysis and synthesis of job titles and job descriptions and for validation studies of selection standards for corrections personnel. In response to the Board's recommendation, the legislature passed several bills creating the Standards and Training for Corrections Program (STC). STC was to establish minimum standards for the selection and training of local corrections and probation personnel, to certify training courses, and to administer the Corrections Training Fund to help agencies comply with the training standards.

Overall, the research program sponsored by STC in order to meet the above mandates has consisted of three phases, each corresponding to one of three objectives of the STC Program. These three objectives are:

Phase I - a statewide job analysis of three entry-level positions in county agencies: Corrections Officer, Probation Officer, and Juvenile Counselor.

Phase II - the development and validation of entry-level selection procedures for these positions.

Phase III - the development of training standards and curricula for these positions.

The entry-level selection procedures to be developed as part of Phase II include the development of guidelines for use in screening the vision and hearing of entry-level job candidates. As such, the development of vision and hearing guidelines falls squarely into Phase II of the project, but it also draws heavily upon the data collected during Phase I. Accordingly, the job analysis phase of the research is briefly reviewed in order to place the vision and hearing guidelines research into its appropriate context. Details about the job analysis and other phases of this research are contained in several separate reports which are available from the Board of Corrections.

### Participating Agencies

County Sheriff's or Probation Departments participating in the STC program were eligible to participate in this project. Twenty-three sheriff's departments and 30 Probation Departments elected to participate. The number of participating departments varied from time to time as departments withdrew or were added to the study.

**Job Analysis Summary**

The job analysis of each position began with reviews of job descriptions, training and orientation materials, and performance evaluation forms supplied by participating departments. Document review was followed by site visits to eight agencies. During the site visits detention facilities were toured; and incumbents and supervisors interviewed individually and in groups to determine the major duties and tasks involved in each job.

Information gathered from the document review and site visits was used to develop a preliminary version of a job analysis questionnaire (JAQ) for each of the three jobs. The preliminary questionnaires were reviewed by STC staff and then pilot tested with a sample of job incumbents. Based upon the review and pilot-test data the questionnaires were revised into two forms; one for incumbents and the other for supervisors. Each questionnaire consisted of four sections: (1) a general section, collecting information about the person completing the questionnaire; (2) a task rating section, where incumbents rated how often they performed each of approximately 200 job tasks and where supervisors rated the importance of each of those tasks; (3) an equipment rating section in which each of approximately 46 pieces of equipment were rated with respect to their frequency of use; and a worker characteristics section in which each of approximately 100 knowledges, skills, abilities, and personal characteristics (KSAs) were rated in terms of their usefulness for successful job performance.

For each job, the final job analysis questionnaires were administered to a random sample of approximately 600 experienced incumbents and 200-250 supervisors in the participating agencies.

Analysis of the completed questionnaires resulted in a statewide definition of a "core job" for each position, as well as specific definitions of how the job was performed in each participating agency. The core jobs were defined, based upon the task ratings from all participating agencies, as consisting of all job tasks listed in the JAQ which:

1. Were performed by half or more of the incumbents across most agencies, or

2. Were rated as having medium or higher importance by the supervisors in most agencies.

Indices of both of the above criteria were computed using a procedure that equally weighted all agencies. This ensured that the results were applicable to all participating agencies and that the results from large agencies did not completely dominate the study. Job tasks not meeting one of the above criteria were excluded from the core job definition - as were those tasks with medium or higher importance, but which were rarely performed in most agencies.

Apart from defining a core job for each position, the job analysis data showed that the questionnaires were highly reliable over time and that the jobs did not vary from agency to agency. The latter finding was very important as it permitted the development of a uniform set of selection. procedures to be applied to agencies throughout the State of California.

## Development of Preliminary Vision and Hearing Guidelines

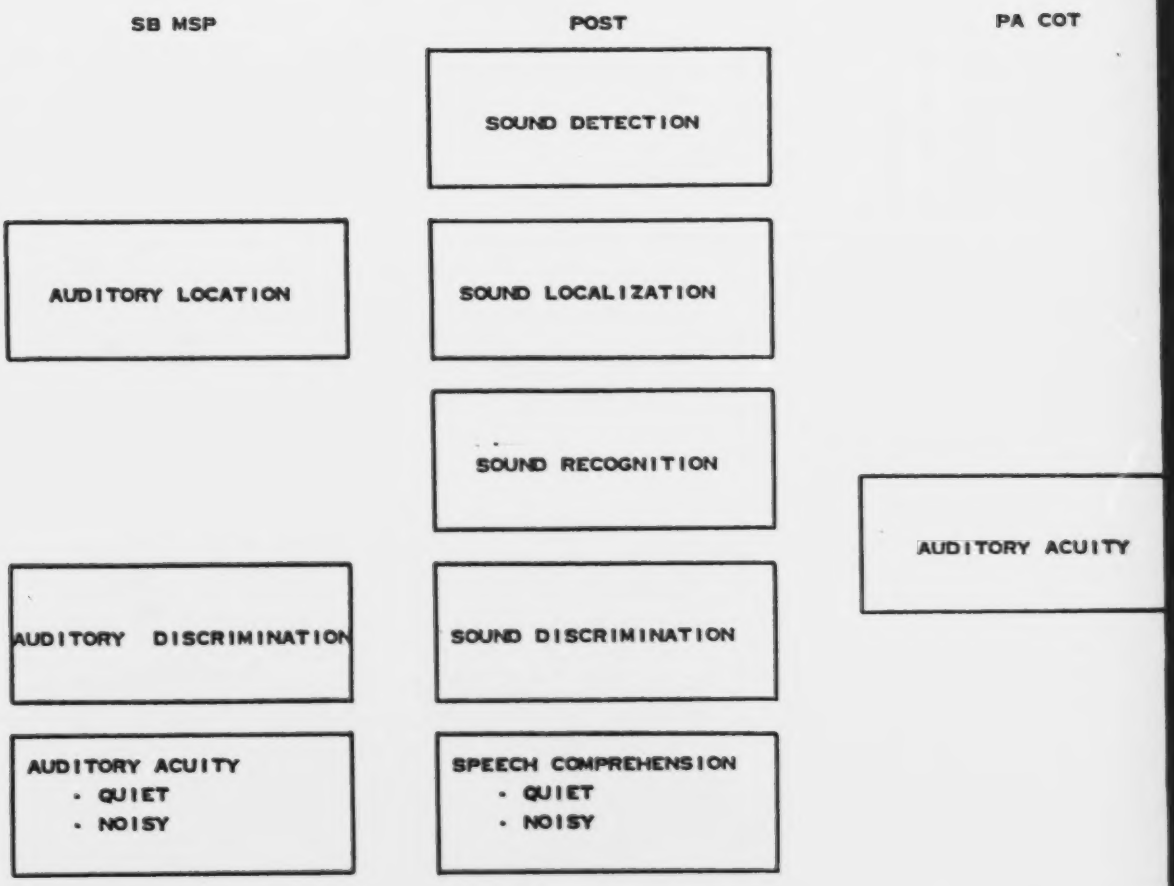
Below are described the methods used to develop preliminary vision and hearing guidelines for each of the three jobs encompassed by this project. The first step was to locate dimensions of vision or hearing used by other agencies to set entry-level selection guidelines/standards for similar jobs. Once a list of dimensions had been compiled, vision and hearing relevant data from all available sources (e.g., job analysis and critical incidents) were used to determine the relevance of each dimension for each of the three jobs. Preliminary entry-level selection guidelines were then drafted for each relevant dimension. The preliminary guidelines drew heavily upon the guidelines/standards used by other agencies for similar jobs. The preliminary guidelines were submitted to vision or hearing experts (as appropriate) for their review, comment, and recommendations. Based upon expert review, the guidelines were then revised into their final form. Details of each step of this process are given below.

### Locating Dimensions of Vision and Hearing

A brief review of previous research was conducted to compile a list of vision and hearing dimensions of potential relevance to any of the three jobs in this project. The review focused upon three studies in particular: the San Bernardino Medical Standards Project (Nylander & Carmean, 1984); the Pennsylvania State Civil Service Commission, Corrections Officer Trainee Selection Project (Berkley, 1983); and various materials relating to research on vision and hearing guidelines conducted by the Commission on Peace Officer Standards and Training (R. Briggs, personal communication, 1984, 1985; J. Kohls, personal communication, 1985). These sources were reviewed and a list was compiled of all vision or hearing dimensions that had been used, or considered for use, as the basis for entry-level vision or hearing standards or guidelines. The dimensions thus identified are presented in Appendix A. In Appendix A, each dimension is briefly defined and operationalized. If cutoff scores were recommended, those data are also presented in Appendix A.

For hearing, the San Bernardino Medical Standards Project (SBMSP) yielded three dimensions. For one of these, auditory acuity, cutoffs were given for two types of environment (quiet and noisy). The Pennsylvania Corrections Officer Trainee Selection Project (PA COT) yielded one compound dimension and the Peace Officers Standards and Training Project (POST) yielded five dimensions, one of which (speech comprehension) was defined separately for quiet and for noisy environments. The relationship among the dimensions from the three sources is given in Figure 1. As can be seen, the three MSP dimensions are virtually identical to dimensions found in the POST study. The single COT dimension represents a combination of two POST dimensions. In total, five hearing dimensions were discovered.

Figure 1. The Relationship Among Hearing Dimensions from Three Studies



For purposes of this research, the names and definitions used by POST have been used to describe these dimensions. The names and definitions from the other sources (see Appendix A) are nearly identical. The five hearing dimensions used in this project are given in Table 1.

**Table 1. Definition of Five Dimensions of Hearing**

| Dimension | Definition |
|---|---|
| Sound Detection | The ability to detect sounds |
| Sound Localization | The ability to tell where sound is coming from |
| Sound Recognition | The ability to recognize sounds. |
| Sound Discrimination | The ability to distinguish one sound from another, or to perceive changes in sound pattern or intensity. |
| Speech Comprehension | The ability to hear and understand speech in a quiet (noisy) environment.<br><br>NOTE: The POST and SBMSP Projects treat this as two dimensions, one for quiet and one for noisy environment. |

For vision, the SBMSP and POST studies each yielded three dimensions and the PACOT Project yielded two dimensions. As was true for the hearing dimensions, there was considerable overlap among the dimensions from the three sources. The relationship among dimensions is shown in Figure 2. When duplication across sources was removed four dimensions remained. Definitions of the dimensions used in this project are given in Table 2.

It should be noted that the POST research identified 13 dimensions of vision in addition to those included in Table 2. These dimensions (see Appendix A) were not operationalized by POST, nor were cutoffs given. Because the dimensions were not used as the basis for vision standards by POST, they were not considered for use as preliminary guidelines in this project.

Figure 2. The Relationship Among Vision Dimensions from Three Studies

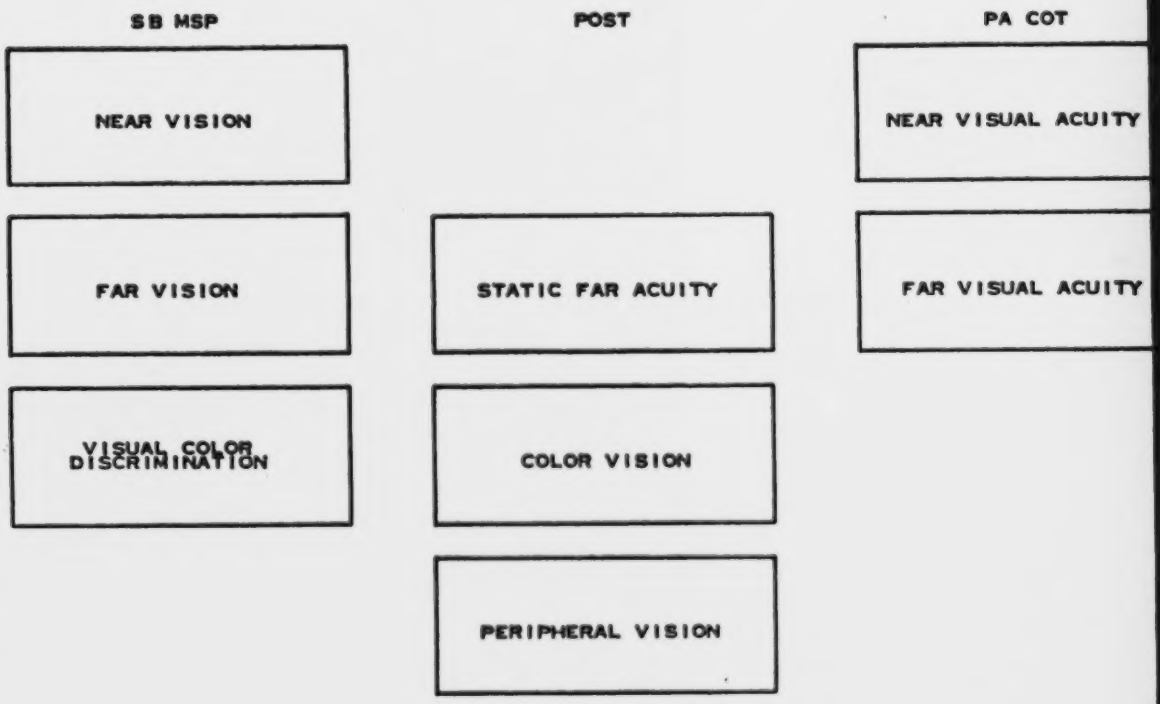


**Table 2. Definitions of Four Dimensions of Vision**

| Dimension | Definition |
|---|---|
| Near Visual Acuity | The ability to see close environmental surroundings and to see details at normal reading distances. |
| Far Visual Acuity | The ability to see distant environmental surroundings and to see details at distances beyond normal reading distance. |
| Visual Color Discrimination | The capacity to match or discriminate between colors. This capacity includes differences in color purity (saturation) and brightness (brilliance). |
| Peripheral Vision | The ability to identify objects (but not detail) with side vision (usually considered at 45° to 90° to the plane of the head to exclude eye movement efforts). |

**Description of Vision and Hearing Relevant Data**

Nearly 1000 incumbents or supervisors in each job completed a job analysis questionnaire describing the job tasks; equipment; and knowledges, skills, and abilities (KSAs) involved with the job. Based upon the responses of these incumbents and supervisors, a core job was defined for each job. (Job Analysis Report available from the Board of Corrections.) The core job was defined as consisting of the job tasks that were frequently performed or that were rated as being important parts of the job. From the list of core tasks those tasks dealing with some aspect of vision or hearing were extracted for use in determining the vision and hearing demands of each job. In addition to the core tasks all of the KSAs dealing with vision or hearing were also extracted. The several hundred critical incidents (i.e., behavioral examples of poor, average, or excellent performance) collected in the course of developing an index of job performance were reviewed and those demonstrating a necessity for visual or hearing skills were extracted. Table 3 shows the quantity of each type of data used to determine the vision and hearing demands of each job. A complete list of the tasks, KSAs, critical incidents, and expert comments used to determine the vision and hearing demands of each job are attached in Appendices B1-B3.

Table 3. Data Used to Determine Vision or Hearing Demands

| Data Source | Vision | | | Hearing | | |
|---|---|---|---|---|---|---|
| | CO | JC | PO | CO | JC | PO |
| Core Job Tasks | 25 | 20 | 12 | 12 | 12 | 19 |
| KSAs | 13 | 13 | 9 | 7 | 4 | 1 |
| Critical Incidents | 20 | 15 | 30 | 23 | 7 | 14 |

**Preliminary Guidelines**

During the job analysis each job task and KSA was rated by several hundred incumbents and supervisors. Incumbents rated task frequency, supervisors rated task importance, and both rated KSA usefulness. The average task and KSA ratings are shown in Appendices B1-B3. The rating scales used by incumbents and supervisors are given in Table 4.

Table 4. Job Analysis Rating Scales

| Rating | Scale |
|---|---|
| Job Tasks (Incumbents) | 0= Never, not part of my job<br>1= Once or twice a year or less<br>2= More often than twice a year but less than once a month<br>3= About once a month<br>4= Two or three times a month<br>5= About once a week<br>6= Several times a week<br>7= About once a day<br>8= More than once a day |
| Job Tasks (Supervisors) | 0= Not part of the job<br>1= Low<br>2= Moderately low<br>3= Medium<br>4= Moderately High<br>5= High |
| KSAs (both) | 0= Not useful<br>1= Slightly useful<br>2= Moderately useful<br>3= Very useful<br>4= Extremely useful |

Developing preliminary vision and hearing guidelines was essentially a two-step process. The first step was to determine which of the vision and hearing dimensions located during the research review (see Tables 1 and 2) were relevant for each job. The second step was to draft preliminary guidelines for each relevant dimension.

The relevance of each guideline was determined using the following procedure. Each job task, KSA, and critical incident was assigned to the dimension or dimensions it required. For example, the task "listen for unusual sounds" might have been assigned to the detection, recognition, and discrimination dimensions, while the task "answer questions about the facility" might have been assigned to the speech comprehension dimension. Relevant dimensions were those to which at least one task, KSA, or critical incident had been assigned. Appendices C1-C3 show the assignment of the job tasks, KSAs, and critical incidents to the various vision and hearing dimensions.

For Corrections Officers and Juvenile Counselors all of the vision and all of the hearing dimensions were determined to be relevant. For Probation Officers, all of the vision, but only one (speech communication) of the hearing dimensions were determined to be relevant. Once the relevant dimensions had been determined the following procedures were used to draft preliminary, entry-level selection guidelines.

Hearing Guidelines. The San Bernardino Medical Standards Project (SBMSP) provided suggested guidelines for four of the five hearing dimensions used in the study. The one dimension not included (sound detection) is subsumed by each of the others (e.g., sounds must be detected before they are recognized). The guidelines for the other four dimensions were judged sufficient to cover sound detection as well.

The SBMSP guidelines require that the criticality of a dimension for the successful performance of a job be rated. Seven-point scales are provided for use in making such ratings. For this study preliminary hearing guidelines were drafted by a straightforward mapping of the job analysis data onto the four SBMSP rating scales. Because the job analysis ratings (see Appendices B1-B3) were collected on scales with different rating categories, it was necessary to standardize the ratings prior to mapping them onto the MSP scales.

The SBMSP scale ratings range from 1 to 7, while the task and KSA job analysis ratings range from 0 to 4, 5, or 8. The first step in ratings standardization was to add 1.0 to each rating so that all ratings began at the same point as did the SBMSP scales. Each rating was then transformed into its seven-point equivalent. For example, the seven point equivalent of a usefulness rating

of 3.2 was found by solving the following equality,

$$3.2/5.0 = X/7.0.$$

In this example, 3.2 is the value of the rating to be transformed, 5.0 is the maximum possible rating for the usefulness scale (after addition of 1.0) and 7.0 is, of course, the maximum value of the SBMSP rating scales. Similar equalities were used to standardize all ratings. The resulting standardized ratings for each task and KSA are given in Appendices C1-C3.

For the job tasks, only the importance (supervisors') ratings were standardized. This was done because importance and criticality are similar rating dimensions, while frequency (incumbents' ratings) and criticality are not. For consistency, only the supervisors' usefulness ratings were standardized.

After the ratings had been standardized they were averaged across all tasks and KSAs that had been assigned to each dimension. These average ratings (see Tables 5.1 - 5.3) were used to determine which of the SBMSP guidelines were most appropriate for each job. Appendices D1-D3 contain the preliminary hearing guidelines for the three jobs.

Vision Guidelines. Drafting preliminary vision guidelines followed a process similar to that used to draft preliminary hearing guidelines. Because the SBMSP study does not provide suggested guidelines for the vision dimensions used in this study, the process could not be duplicated exactly. As was the case for hearing, the relevance of the vision dimensions for each job was determined by assigning job tasks and KSAs to dimensions. Once relevant vision dimensions were determined, the task and KSA ratings were standardized and then averaged (see Tables 5.1-5.3) using a method identical to that described for the hearing dimensions.

For hearing, the SBMSP guidelines vary in stringency as a function of the criticality of a dimension for the successful performance of a job. Three levels of guidelines are provided: the most stringent for criticality ratings above 5.0, less stringent for criticality ratings between 3.5 and 5.0, and the least stringent (no guidelines at all) for criticality ratings less than 3.0. The vision guidelines found during the research review (see Appendix A) were similarly rank ordered according to their stringency. Using the same breaks as the SBMSP study (i.e., above 5.0, 3.0-5.0, and below 3.0) preliminary vision guidelines were drafted. If the average standardized rating for a dimension was 5.0 or more, the most stringent of the guidelines was adopted. If the average rating for a dimension was less than 5.0, the least stringent guideline was adopted. In the event that the average rating was less than 3.0, no guideline was suggested unless the job required a drivers license. The guidelines for the latter dimensions were those reported by Nylander & Carmean (1984) as necessary for a valid Class I or II California drivers license. Appendices E1-E3 contain the preliminary vision guidelines for the three jobs.

TABLE 5.1

SUMMARY OF JOB ANALYSIS DATA FOR

RELEVANT VISION/HEARING DIMENSIONS

| CORRECTIONS OFFICERS | TASKS | | KSAS | | INCIDENTS | | |
|---|---|---|---|---|---|---|---|
| DIMENSION | N | % | N | % | N | % | AVG. RATING |
| NEAR VISUAL ACUITY | 15 | 60 | 7 | 54 | 8 | 40 | 5.1 |
| FAR VISUAL ACUITY | 18 | 72 | 9 | 69 | 14 | 70 | 5.3 |
| VISUAL COLOR DISCRIMINATION | 1 | 04 | 3 | 23 | 1 | 05 | 4.8 |
| PERIPHERAL VISION | 3 | 12 | 4 | 31 | 0 | 0 | 5.0 |
| SOUND DETECTION | 1 | 8 | 2 | 29 | 5 | 22 | 5.6 |
| SOUND LOCALIZATION | 1 | 8 | 2 | 29 | 5 | 22 | 5.6 |
| SOUND RECOGNITION | 1 | 8 | 2 | 29 | 7 | 30 | 5.8 |
| SOUND DISCRIMINATION | 1 | 8 | 2 | 29 | 8 | 30 | 5.6 |
| SPEECH COMPREHENSION (QUIET) | 11 | 92 | 5 | 71 | 16 | 70 | 4.9 |
| SPEECH COMPREHENSION (NOISY) | 11 | 92 | 5 | 71 | 16 | 70 | 4.9 |

TABLE 5.2

SUMMARY OF JOB ANALYSIS DATA FOR

RELEVANT VISION/HEARING DIMENSIONS

| JUVENILE COUNSELORS DIMENSION | TASKS | | KSAs | | INCIDENTS | | AVG. RATING |
|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | |
| NEAR VISUAL ACUITY | 12 | 60 | 7 | 54 | 0 | 0 | 5.9 |
| FAR VISUAL ACUITY | 13 | 65 | 9 | 69 | 15 | 100 | 5.9 |
| VISUAL COLOR DISCRIMINATION | 2 | 10 | 3 | 23 | 0 | 0 | 5.7 |
| PERIPHERAL VISION | 3 | 15 | 5 | 38 | 0 | 0 | 5.7 |
| SOUND DETECTION | 1 | 8 | 1 | 25 | 3 | 43 | 5.7 |
| SOUND LOCALIZATION | 1 | 8 | 1 | 25 | 3 | 43 | 5.7 |
| SOUND RECOGNITION | 1 | 8 | 1 | 25 | 3 | 43 | 5.7 |
| SOUND DISCRIMINATION | 1 | 8 | 1 | 25 | 4 | 57 | 5.7 |
| SPEECH COMPREHENSION (QUIET) | 11 | 92 | 3 | 75 | 3 | 43 | 5.9 |
| SPEECH COMPREHENSION (NOISY) | 11 | 92 | 3 | 75 | 3 | 43 | 5.9 |

TABLE 5.3

SUMMARY OF JOB ANALYSIS DATA FOR

RELEVANT VISION/HEARING DIMENSIONS

| PROBATION OFFICERS | TASKS | | KSAS | | INCIDENTS | | |
|---|---|---|---|---|---|---|---|
| DIMENSION | N | % | N | % | N | % | AVG. RATING |
| NEAR VISUAL ACUITY | 12 | 100 | 6 | 67 | 9 | 30 | 4.3 |
| FAR VISUAL ACUITY | 3 | 25 | 8 | 89 | 22 | 73 | 3.9 |
| VISUAL COLOR DISCRIMINATION | 1 | 8 | 1 | 11 | 0 | 0 | 5.0 |
| PERIPHERAL VISION | 1 | 8 | 3 | 33 | 0 | 0 | 4.0 |
| SOUND DETECTION | 0 | 0 | 0 | 0 | 0 | 0 | --- |
| SOUND LOCALIZATION | 0 | 0 | 0 | 0 | 0 | 0 | --- |
| SOUND RECOGNITION | 0 | 0 | 0 | 0 | 0 | 0 | --- |
| SOUND DISCRIMINATION | 0 | 0 | 0 | 0 | 0 | 0 | --- |
| SPEECH COMPREHENSION (QUIET) | 19 | 100 | 1 | 100 | 14 | 100 | 4.1 |
| SPEECH COMPREHENSION (NOISY) | 19 | 100 | 1 | 100 | 14 | 100 | 4.1 |

## Expert Review and Guideline Revision

The preliminary vision and hearing guidelines for each job were submitted to two vision or two hearing experts (as appropriate), for review, comment, and recommendations. Experts were given all the data contained in the tables and appendices of this report, as well as a summary of the project and a summary of the laws and regulations that govern selection discrimination on the basis of handicap.

The vision and hearing experts (vitae contained in Appendix F) were asked to review the preliminary guidelines for each job to determine whether the job demands necessitated guidelines. For those jobs for which guidelines were necessary, the experts were asked to comment on the appropriateness of each guideline as a measure of the relevant vision or hearing dimension. The experts were also asked for their opinions about the stringency of the guidelines. Finally, the experts were asked to make any recommendations they judged appropriate concerning the preliminary guidelines.

Based upon the experts' comments and recommendations, the preliminary guidelines were revised. The revised guidelines are contained in Appendices G1-G3 (hearing) and H1-H3 (vision).

### Hearing Guidelines Revisions

The hearing experts comments and recommendations deal with four aspects of the preliminary guidelines. The first and most far-reaching of these concerns the number of hearing dimensions used to organize the preliminary guidelines. The experts judged that two dimensions are all that are appropriate or necessary. The first of the dimensions, termed basic auditory abilities, will include the previously separate sound detection, sound recognition, sound localization, and sound discrimination dimensions. Speech comprehension will remain the second dimension but will be renamed speech perception to more adequately reflect its nature. As in the preliminary guidelines, a distinction will continue to be made between perception in quiet and noisy environments.

The second aspect of the guidelines questioned by the experts concerned the necessity of separate guidelines for persons who wear hearing aids. More specifically, the experts questioned the appropriateness of excluding persons who are able to meet the guidelines while wearing hearing aids -- with the condition that such persons be required to wear their hearing aids while on the job. One expert noted that care must be taken in testing persons who wear aids because they might increase the volume during testing to a point well above that routinely used.

The third recommendation of the experts was that the testing conditions and equipment be clearly specified. The fourth aspect of the guidelines to be commented on concerned details of the various guidelines for each job. For example, it was noted that, for speech perception, the preliminary guidelines were quite lenient in some respects and stringent in others.

Based upon the comments and recommendations of the hearing experts the following general revisions were made to the preliminary hearing guidelines.

1) The sound detection, sound recognition, sound localization and sound discrimination dimensions were combined into a single, basic auditory abilities dimension.

2) The guidelines for the basic auditory abilities dimension were taken to be those of the most stringent of the previously separate dimensions.

3) The guidelines concerning the use of hearing aids were relaxed to permit their conditional use during testing.

4) The speech perception guidelines dealing with recorded word lists were made more stringent.

5) The equipment and conditions to be used during auditory testing were specified for each guideline.

In addition to the above general revisions, specific revisions were made in the guidelines for each job in accordance with the comments and recommendations of the hearing experts. The revised hearing guidelines are contained in appendices G1-G3.

The hearing experts indicated that guidelines are necessary for each job, that the preliminary guidelines were sufficient to ensure that candidates can meet the auditory demands of the job, and that the job analysis data did not indicate the need for any guidelines in addition to the preliminary guidelines.

**Vision Guidelines Revisions**

The comments and recommendations of the vision experts deal with several aspects of the preliminary vision guidelines. One aspect of the preliminary guidelines that was questioned by the experts concerns the occasional use of different standards for persons who wear corrective lenses than for those who do not. The experts concurred that a single guideline should be specified with the condition that corrective lenses be acceptable as long as they were also worn on the job.

The need for guidelines dealing with peripheral vision was also questioned. One expert stated that, "aside from driving...the job analyses do not support the need for peripheral vision standards."

This expert went on to note that the tasks from the job analysis initially believed to deal with peripheral vision more appropriately involved visual acuity.

The experts also commented on the need for better specifications of the conditions under which testing is to occur. In addition to testing conditions, the experts also noted that the proposed measure of near visual acuity was not appropriate and recommended a substitute measure. For all jobs the principal task for which near visual acuity is important is reading. The experts noted that acuity per se is not necessary for reading as long as the materials to be read can be magnified. The substitute measure suggested for near visual acuity better assesses ability to read than does the standard Snellen acuity of the preliminary guideline. They also noted that the visual color discrimination test was too stringent and recommended a follow-up test for use with those persons who fail the principal test.

A final aspect of the preliminary guidelines that drew comment concerned the redundancy of some of the guidelines with those required to obtain a drivers license. The recommendation here was that possession of a valid drivers license was sufficient proof of visual ability for positions where no other guidelines are recommended. Based upon the comments and recommendations of the vision experts the following general revisions were made to the preliminary vision guidelines. Specific revised guidelines for each job are contained in Appendices H1-H3.

1) Guidelines concerning peripheral vision were eliminated.

2) The specific measure of near visual acuity was changed.

3) Separate guidelines for persons who wear corrective lenses were eliminated.

4) Testing conditions were specified for all guidelines.

5) A follow-up measure of color vision was added to the guidelines concerning visual color discrimination.

The vision experts agreed that the job analysis data clearly document the importance of good vision in performing the core job tasks of each job. They also note that the guidelines were based upon clinical judgment rather than upon empirical evidence - a point that is taken up in the following chapter.

## Implementing the Guidelines

The vision and hearing guidelines contained in the appendices of this report are just that - guidelines. They are not empirically determined vision or hearing standards. That is, they do not represent criteria below which all, or substantially all, persons will be unable to perform the job. They do represent the combined judgment of many professionals as to the visual and auditory abilities required by the demands of the three jobs.

The purpose of all selection screening is to determine whether a given person can or cannot perform a given job. These guidelines should be implemented with this principle in mind. Extra effort may be necessary to determine whether a person who does not meet one or more of the guidelines can, in fact, successfully perform the job. The guidelines should not be used inflexibly to screen out individuals. Similarly, information suggesting that a person who meets the guidelines cannot perform the job should not be ignored. Finally, it is incumbent upon employers to make reasonable accommodations in order that persons not otherwise able to do so be permitted to successfully perform a job.

Recommendations as to reasonable accommodations were made by the vision and hearing experts in the course of their review. For hearing the experts recommended that persons be allowed to use hearing aids during testing with the stipulation that those who wear aids during testing be required to wear them on the job as well. For vision, similar recommendations were made concerning the use of corrective lenses during testing. The preliminary guidelines were revised to reflect these recommendations. The vision experts also suggested that the use of optical magnifiers might be a reasonable accommodation - but noted that "the vast majority of individuals requiring such an aid to read would not be able to meet the distance acuity to standard, anyway".

It is strongly recommended that agencies contemplating the use of these guidelines carefully and systematically determine the relevance of the guidelines for their situation. For example, it will be important for agencies to determine whether the speech perception guidelines for a noisy environment are appropriate. The guidelines for a noisy environment are more stringent than the guidelines for a quiet environment. As a result, the noisy environment guidelines will lead to the rejection of more candidates than will the guidelines for quiet environments. If it is possible, as it appears to be for most probation officers, to control the background noise that accompanies speech perception the guidelines for a noisy environment may be unnecessary. One method of making this determination would be to give a sample of experienced incumbents and supervisors the list of tasks and KSAs contained in appendices B1-B3 and have them indicate how often each occurs in a noisy environment.

We also advise agencies to consider what other sources of information are available about candidates' visual and auditory abilities and, most importantly, to obtain sound legal advice concerning the obligations and liabilities that may accompany the use of these guidelines.

## References

Berkley, S. Corrections Officer Trainee Selection Project. State Civil Service Commission: Pennsylvania, 1983.

Nylander, S.W., & Carmean, G. Medical Standards Project. San Bernardino County: San Bernardino, CA, 1984.

Appendix A

| Dimension | Standard/Guideline | | | Source |
|---|---|---|---|---|
| | Definition | How Measured | Cutoff(s) | |
| Auditory Acuity | Ability to distinguish accurately, differences in the pitch, intensity or quality of sounds or to recognize a particular sound. | Audiogram | In either ear:<br>500Hz - 15 dB<br>1000 Hz - 15 dB<br>2000 Hz - 15 dB<br>4000 Hz - 40 dB | PA COT |
| Auditory Acuity | The ability to hear and understand conversation in a quiet environment. | Audiometer | Cutoffs vary as a function of the criticality of the dimension for the job. See text for details.<br>If rating greater than 5:<br>In better ear, pure-tone threshold not worse than 15 dB HL at 300, 1000, 2000, and 3000 Hz.<br>In poorer ear, pure-tone threshold not worse than 15 db HL at any of the above four frequencies.<br>A hearing aid is acceptable under certain circumstances.<br>If rating is from 3-5:<br>In the better ear, pure-tone threshold not worse than 29 dB HL at 500, 1000, 2000, and 3000 Hz.<br>No standard for poorer ear.<br>Hearing aid acceptable under certain circumstances. | SB MSP |

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| Dimension | Standard/Guideline | | | Source |
|---|---|---|---|---|
| | Definition | How Measured | Cutoff(s) | |
| Auditory Location | The ability to tell where sound is coming from. | Audiometer | If rating is greater than 5:<br>in both ears, pure-tone thresholds not worse than 15 dB HL at 500, 1000, 2000, and 3000 Hz.<br>Hearing aid not acceptable.<br>If rating from 3-5:<br>In better ear, pure-tone thresholds not worse than 20 dB HL at any 3 of 500, 1000, 2000, or 3000 Hz.<br>In poorer ear, pure-tone thresholds not worse than 30 dB HL at any 3 of the above 4 frequencies.<br>Hearing aid acceptable if it can be shown that person functions well in actual job environment. | SB MSP |
| Auditory Discrimination | The ability to discriminate among non-speech (environmental) sounds. | Audiometer | If rating greater than 5:<br>In both ears, pure-tone thresholds not worse than 15 dB HL at any 3 of 500, 1000, 2000 or 3000 Hz.<br>If rating from 3-5:<br>In better ear, pure-tone thresholds not worse than 20 dB HL at any 3 of the above 4 frequencies.<br>Hearing aid acceptable if it can be shown that person functions well in actual job environment. | SB MSP |

| Dimension | Standard/Guideline | | | Source |
|---|---|---|---|---|
| | Definition | How Measured | Cutoff(s) | |
| Auditory Acuity | The ability to hear and understand conversation in a noisy environment. | Audiometer | If rating greater than 5:<br>In both ears, pure-tone thresholds not worse than 15 dB HL at 300, 1000, 2000, and 3000 Hz.<br>Hearing aid not acceptable unless applicant can function well in actual job environment.<br>If rating scale from 3-5:<br>In better ear, pure-tone thresholds not worse than 20 dB HL at any 3 of 500, 1000, 2000, or 3000 Hz.<br>In poorer ear, pure-tone thresholds not worse than 30 dB HL at any 3 of the above 4 frequencies.<br>Hearing aid acceptable under certain circumstances. | SB MSP |

| Dimension | Standard/Guideline | | | Source |
|---|---|---|---|---|
| | Definition | How Measured | Cutoff(s) | |
| Hearing | None given | In ANSI approved soundproof booth using equipment calibrated to ANSI standards under the supervision of a trained hearing specialist. | Without correction or amplification devices of any kind, pure-tone hearing loss in the worst ear no greater than 25 dB at 500, 1000, or 2000 Hz and 35 dB at 3000 Hz. No greater than 30 dB at any one of the first 3 frequencies and no greater than 30 dB averaged across the 4 frequencies. | POST |
| Sound Detection | The ability to detect sounds. | Not specified | None given | POST |
| Sound Recognition | The ability to recognize sounds. | Not specified | None given | POST |
| Sound Discrimination | The ability to distinguish one sound from another or to perceive changes in sound pattern or intensity. | Not specified | None given | POST |
| Sound Localization | The ability to tell where sound is coming from. | Not specified | None given | POST |
| Speech Comprehension In Quiet Environment | The ability to hear and understand conversation in a quiet environment. | Not specified | None given | POST |
| Speech Comprehension In Noisy Environment | The ability to hear and understand conversation in a noisy environment. | Not specified | None given | POST |

| Dimension | Standard/Guideline | | | Source |
|---|---|---|---|---|
| | Definition | How Measured | Cutoff(s) | |
| Far Visual Acuity | Ability to see details at distances beyond normal reading distance | Telebinocular or standard Snellen eye chart at distance of 20 measured feet | With eye glasses or contact lenses:<br>20/40 in one eye and 20/70 in the other<br>20/30 in one eye and 20/100 in the other<br>20/20 in one eye and 20/400 in the other | PA COT |
| Near Visual Acuity | Ability to see details at normal reading distance | Telebinocular or Jaeger | In the better eye: corrected to at least J-6 | PA COT |

| Dimension | Standard/Guideline | | | Source |
|---|---|---|---|---|
| | Definition | How Measured | Cutoff(s) | |
| Near Vision | The capacity to see close environmental surroundings. | Not specified | Visual acuity recommendations must await the development of definitive vision scales. | SB MSP |
| Far Vision | The capacity to see distant environmental surroundings. | Not specified | Visual acuity recommendations must await the development of definitive vision scales. | SB MSP |
| Visual Color Discrimination | The capacity to match or discriminate between colors. This capacity also includes differences in color purity (saturation) and brightness (brilliance). | Not specified | Visual acuity recommendations must await the development of definitive vision scales. | SB MSP |
| Static Far Acuity | Identifying detail at a distance (6 feet to infinity) with no time limits under very good lighting conditions (contrast is an absolute necessity). | Appropriate Sloan optotype chart | Note: for static far acuity, each eye should not be tested individually.<br>Corrected acuity of 20/20.<br>If wearing glasses or hard contact lenses, uncorrected static far acuity of 20/80.<br>If wearing soft contact lenses, no uncorrected static far acuity requirement.<br>For all corrected vision stability of static far acuity should be demonstrated. | POST |
| Color Vision | None given | Farnsworth D-15 test | Be found to be free of significant color vision anomoly(ies). | POST |
| Peripheral Vision | Ability to identify objects (but not detail) with side vision (usually considered at $45^0$ - $90^0$ to the plane of the head to exclude eye movement efforts.) | A) automated perimetry, or<br>B) non-automated screening test, or<br>C) clinical observation | For either eye disqualify for total absence of peripheral vision<br>Noticeable decrement of performance in either eye requires complete clinical evaluation to determine whether loss is sufficient to significantly impair job performance. | POST |

| Dimension | Standard/Guideline | | | Source |
|---|---|---|---|---|
| | Definition | How Measured | Cutoff(s) | |
| Pursuit | Involves locating and following a moving target, either with the eyes, or with the eyes and head in motion. | Not specified | None given | POST |
| Identify Large Forms | Involves detecting larger forms, but no details. | Not specified | None given | POST |
| Identify Objects | Involves detecting smaller forms often at a distance of 20 feet or more and with the discrimination of a larger less detailed target than would be involved in an acuity skill. | Not specified | None given | POST |
| Dynamic Far Acuity | The rapid processing of detailed information at a distance. | Not specified | None given | POST |
| Dynamic Near Acuity | The rapid processing of detailed information 3 feet or closer. | Not specified | None given | POST |
| Color Identification | The ability to make gross color categorizations under moderate to bright illumination levels, often based on brief exposure. | Not specified | None given | POST |
| Color Discrimination | The ability to discern small differences between highly similar hues. | Not specified | None given | POST |

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| Dimension | Standard/Guideline | | | Source |
|---|---|---|---|---|
| | Definition | How Measured | Cutoff(s) | |
| Dark Adaptation | Adjustment to decreases in illumination and contrast. | Not specified | None given | POST |
| Light Adaptation | Ability to compensate for increase in ambient illumination and contrast. | Not specified | None given | POST |
| Glare Tolerance | There are three basic types of glare:<br>Direct - for example, the sun pointed right at a driver.<br>Reflected - for example, reflections off the front hood of a car.<br>Veiling - for example, as present in foggy, rainy or overcast sky conditions. | Not specified | None given | POST |
| Motion Detection | Detecting motion in the right horizontal visual field or the left, off center, or direct. | Not specified | None given | POST |
| Depth Perception | Involves locating objects in space There are two major types:<br>Stereoscopic - involves the differences between visual information presented to the two eyes.<br>Dynamic - The establishment of spatial relationships and distances with a moving object or observer. | Not specified | None given | POST |
| Accomodation | The monocular ability to change focus. There are three types:<br>Near - making ocular adjustments from far to near.<br>Far - making ocular adjustments from near to far.<br>Dynamic - focusing back and forth between a near and far target. | Not specified | None given | POST |

Appendix B1

**Summary of Job Analysis Data Pertaining to Hearing Job Demands of the Corrections Officer Job**

| Job Tasks | Incumbents | Supervisors |
|---|---|---|
| 1. Listen for unusual sounds or sounds that may indicate illegal activity or disturbance (for example, whispering, scuffling, sudden quiet or change in noise level, horn honking, rattling of chain link fence). | 6.0 | 3.5 |
| 2. Obtain information from arresting officers and prisoners for booking purposes. | 5.0 | 3.1 |
| 3. Respond to inmates' questions or requests. | 7.7 | 3.8 |
| 4. Talk to prior shift to acquire information (about jail policies, court procedures) and later to on-coming shift to pass on information. | 7.0 | 3.9 |
| 5. Phone or otherwise report count to control, receive "all clear" for the count. | 4.6 | 3.3 |
| 6. Answer incoming phone calls, provide information (about jail polices, court procedures, individual prisoners), route calls, or take messages. | 6.9 | 3.5 |
| 7. Answer questions/provide information in person to individuals visiting jail. | 5.6 | 3.1 |
| 8. Communicate via radio or telephone with control or other officers within the facility (for example, to request gate locking). | 6.0 | 3.1 |
| 9. Call into control room, post, or switchboard at required intervals. | 3.9 | 2.2 |
| 10. Call control or other appropriate area to inform them of inmate movement (for example, inmate issued pass to go somewhere inmates sent to dining hall). | 3.9 | 2.6 |
| 11. Talk with inmates via intercom (for example, in holding or isolation cells). | 4.4 | 2.0 |
| 12. Supervise inmates' phone calls. | 4.6 | 1.9 |

**Summary of Job Analysis Data**
**Pertaining to Hearing Job Demands of the**
**Corrections Officer Job**

| KSAs | Incumbents | Supervisors |
|---|---|---|
| 1. Hearing acuity such as that needed to detect quiet sounds that may indicate illegal activity or disturbance, such as whispering or scuffling, or to detect subtle changes in noise level. | 3.3 | 3.0 |
| 2. Ability to understand and follow oral instructions from supervisors and others. | 3.5 | 3.3 |
| 3. Skill in discerning and understanding signs of out-of-the-ordinary conditions or circumstances which indicate potential problems. | 3.5 | 3.2 |
| 4. Skill in using radio and other oral communications equipment. | 3.2 | 2.9 |
| 5. Skill in operating intercom systems or central control/post switchboard. | 3.0 | 2.8 |
| 6. Skill in communicating orally. | 3.6 | 3.2 |
| 7. Skill in accurately observing and documenting individual and group behavior (verbal and nonverbal). | 2.8 | 2.7 |

CORRECTIONS OFFICERS

EXAMPLES OF CRITICAL INCIDENTS INVOLVING HEARING

Drawn from critical interviews collected in development performance rating scales.

120. When he heard a metallic object drop while completing reports in the module office, this CO looked down the hall, but saw only a towel. He then left his reports to investigate further and found a homemade knife in the towel.

150. When he heard unusual noises while monitoring speakers from control, this CO dispatched an officer to investigate and a fight was discovered.

324. This CO was using the audio monitor system to listen to individual tanks. When he heard many toilets flushing at once continuously, he notified the watch commander and movement officers, who caught three inmates beating another.

59. When this deputy overheard an inmate confessing to a murder, he notified detectives and a conviction was obtained.

112. While working the main control post, this CO received a phone call from the mother of an inmate. She said that her son had just called and told her that he was depressed. The CO then called the west module officer, who went directly to the inmate's cell and found him hanging by his neck. The officer immediately cut him down, thereby saving his life.

280. When loud shouting came from the kitchen area, this CO failed to investigate until a supervisor initiated action. A fight was found to be occurring in the kitchen.

332. When he overheard two inmates talking about a dope drop, this CO immediately reported it to his supervisor and the person who dropped it off was arrested.

205. Upon hearing glass breaking in an inmate's room, this deputy immediately notified his supervisor, investigated, and determined that natural causes were responsible for the window shattering.

224. When an inmate approached the front counter of the office and stood waiting for' assistance, this deputy continued to perform routine paperwork without looking up. Eventually, the inmate gave up and left.

74. When an inmate told this housing officer that his life was in danger, the officer pulled him out of the tank and obtained enough information from him to substantiate his fears. The inmate was rehoused.

99. When he overheard the supervisor discussing spot checks during CO chow break (while the housing areas were locked down), this deputy arose and began to do the checks without being asked.

121. When he overheard another officer rebuff an inmate who thought he should have been released the day before, this CO took the time to call records for a verification. The inmate was correct and so was quickly released.

164. When an inmate was disturbing his module during lockdown by kicking his door, this deputy opened his door and calmly asked him to cooperate.

14. Because this bilingual CO heard younger black and Chicano inmates discussing gang rivalries, he kept an ear out, discussed the issue with more mature inmates, and was able to pass information on to the screening officers when he learned that an influential member of an outside gang was being assigned to the facility.

72. When an inmate told this CO that he was in pain and needed to be seen by a dentist, the CO told inmate to tell the nurse at pill call. Inmate turned to walk away and passed out on the floor.

86. When an inmate came to him complaining that he would be "piped" if he weren't moved to another area, this CO segregated and interviewed the inmate, conducted a complete investigation, and then moved him to another area. He also notified jail informants and custody intelligence.

93. When a fresh arrestee became upset and nearly hysterical, this officer spoke soothingly and respectfully to him; allowing him to calm down and preventing violence.

113. When an inmate who was a constant complainer reported chest pains, this CO, although extremely busy, notified the med tech immediately and took the inmate to sick bay. The inmate did suffer a heart attack, but was promptly attended to.

117. While this CO was busy with an inmate movement, another inmate asked the officer for a minute to talk. The CO said no, but sought him out later. The inmate told him of some hidden contraband, which turned out to be two homemade knives.

208. When an inmate requested a meeting with a detective to discuss confidential information, this deputy relayed the request to the detective, even though the inmate would not reveal the nature of the information.

211. When a person being booked on a warrant adamantly denied being the person named on the warrant, this officer asked his sergeant about verification methods and, by using them, found that the person was telling the truth.

212. When an inmate asked this deputy to check on his release date, the deputy told him that this was the module workers' function, not his, and to ask someone else.

235. When two kitchen trustees were arguing, this deputy went in, advised them to quiet down, and then settled the dispute.

**Summary of Job Analysis Data Pertaining to the Vision Job Demands of the Corrections Officer Job**

| Tasks | Incumbent | Supervisor |
|---|---|---|
| 1. Watch for indications of illegal activity or disturbance in relative darkness (for example, visually check inmates in relatively dark cell or dorm, perceive a flash of car lights or movement outside at night). | 5.4 | 3.5 |
| 2. Watch for indications of illegal activity or disturbance in normal lighting (for example, inside facility while lights are on or outside facility during daylight hours). | 6.3 | 3.7 |
| 3. Review booking forms and court documents for accuracy and completeness. | 5.1 | 3.5 |
| 4. Verify identity of inmates before releasing. | 5.5 | 3.5 |
| 5. Escort inmates individually or in groups to and from locations within facility (for example, to classrooms or work details or infirmary or interview, visiting, or phone rooms or from holding cell to assigned cell/dorm). | 6.3 | 2.7 |
| 6. Transport inmates individually or in groups to and from locations outside the facility (for example, to other facilities, law enforcement agencies, hospitals, courts, airports). | 3.1 | 2.7 |
| 7. Log inmate movement in and out of cells and facility (for example, commissary or jail store). | 6.1 | 3.5 |
| 8. Fill out facility forms (any type of form used in the facility). | 6.5 | 3.4 |
| 9. Take inmate counts (for example, "standing", "wristband", "body", or "skin"). | 6.4 | 4.1 |
| 10. Check to see if each inmate is in his/her proper place; account for location and status of inmates. | 7.0 | 3.9 |
| 11. Make security rounds/checks of inmates. | 7.1 | 4.0 |

**Summary of Job Analysis Data Pertaining to Vision Job Demands of the Corrections Officer Job**

| Tasks | Incumbent | Supervisor |
|---|---|---|
| 12. Conduct security checks of cells/dorms, cell fixtures, bars, locks, windows, doors, kitchen equipment, etc. | 6.7 | 3.9 |
| 13. Check/search areas accessible to inmates (for example, dayrooms, kitchen, library, visiting rooms, mess hall, recreation areas) for contraband, weapons, or other evidence of unauthorized or illegal activities. | 5.4 | 3.7 |
| 14. Patrol areas within facility other than housing (for example, halls). | 6.4 | 3.3 |
| 15. Investigate disturbances or suspicious activities. | 6.0 | 4.1 |
| 16. Observe/monitor attitudes and conduct of inmates, watching for signs of potential disturbance, medical or psychiatric needs, signs of drug or alcohol use. | 7.1 | 4.0 |
| 17. Inspect cells/dorms and other areas for cleanliness. | 6.3 | 3.3 |
| 18. Supervise cleaning of cells/dorms by inmates. | 5.2 | 3.0 |
| 19. Supervise inmate workers (trustees) working in jail areas (sweeping, cleaning, removing trash, working in kitchen, doing laundry). | 6.3 | 3.2 |
| 20. Supervise feeding of inmates in dining hall, cafeteria, or food service area, monitoring and maintaining control, verifying tray, silverware counts. | 5.3 | 3.2 |
| 21. Read internal memos, correspondence, reports. | 6.4 | 3.8 |
| 22. Read daily journal/log. | 6.9 | 3.6 |
| 23. Read facility rules, procedures, regulations, and other formal written materials relevant to job performance. | 5.1 | 3.9 |
| 24. Read court documents and other legal documents (for example, penal codes). | 5.8 | 3.4 |

**Summary of Job Analysis Data**
**Pertaining to the Vision Demands of the**
**Corrections Officer Job**

| Tasks | Incumbent | Supervisor |
|---|---|---|
| 25. Search areas for contraband that are not easily accessible (for example, under beds, in, behind, and around large equipment, vehicles). | 4.0 | 3.6 |
| **KSAs** | | |
| 1. Daytime visual acuity to be able to distinguish inmates at a distance (or on a video monitor), detect any suspicious inmate behavior or quick movements, or to spot contraband, etc. | 3.3 | 3.0 |
| 2. Nighttime visual acuity to be able to see in relatively dark cells or dorms, if inmates are in place and obeying rules, etc., or to detect suspicious movements, vehicles, etc. outside at night. | 3.2 | 3.0 |
| 3. Peripheral vision acuity to be able to detect movement or light outside one's direct line of vision. | 3.2 | 2.9 |
| 4. Color vision to be able to distinguish different colors used for prison clothing (color coded for security factors) or different colored pills for medication, etc. | 3.1 | 2.7 |
| 5. Depth perception to be able to detect relative positions of persons or objects to jump over obstacles, ditches, etc. | 3.0 | 2.6 |
| 6. Ability to accurately recall visual detail such as faces, identification marks and the order in which events occurred. | 3.4 | 3.1 |
| 7. Ability to notice subtle changes in behavior patterns. | 3.2 | 2.9 |
| 8. Skill in reading to be able to understand facility's forms, reports, and procedure manuals. | 3.6 | 3.3 |

**Summary of Job Analysis Data**
**Pertaining to Vision Job Demands of the**
**Corrections Officer Job**

| KSAs | | Incumbent | Supervisor |
|---|---|---|---|
| 9. | Skill in searching cells, dorms, vehicles, and other areas for contraband, weapons, etc. | 3.5 | 3.1 |
| 10. | Skill in discerning and understanding signs of out-of-the-ordinary conditions or circumstances which indicate potential problems. | 3.5 | 3.2 |
| 11. | Skill in accurately observing and documenting individual and group behavior (verbal and nonverbal). | 2.8 | 2.7 |
| 12. | Skill in driving automobiles. | 1.6 | 1.7 |
| 13. | Skill in reading to be able to understand/interpret court documents, federal and state laws and statutory codes, and other legal documents. | 2.7 | 2.2 |

CORRECTIONS OFFICERS

EXAMPLES OF CRITICAL INCIDENTS INVOLVING HEARING

Drawn from critical incidents collected in development performance rating scales.

198. When he was handed an illegibly signed money release form, this deputy carefully compared the signature with that appearing on other document and found it to be forged.

219. When acting as an escort officer in an intake area, this CO observed an inmate bend down and remove a knife from his shoe during an argument with the booking officer. The deputy tackled and handcuffed the inmate.

107. While supervising the evening meal, this officer noticed a bulge in the pocket of one of the inmates returning from chow. The officer patted the inmate down and discovered a piece of pipe in the man's pocket.

135. After having noticed an inmate passing food from his tray to several other inmates during the evening meal, the CO questioned him before returning him to his cell. When the inmate advised him that he was being pressured in his tank, the CO initiated the rehousing procedure.

193. While searching inmates during intake, this CO noticed a small bulge in an inmate's coat lining. It turned out to be a container of a potent drug.

207. When this deputy recognized a recent former inmate who was trying to visit another inmate under a different name, he confronted the man, told him about the prohibitive jail policy, and denied the visit.

259. When this CO noticed that the end flaps of some polaroid photos had been tampered with, he sliced open the end flap and found heroin. He then identified the car and license number in the picture and the visitor was arrested and charged. When the car was searched more heroin was found.

349. When he observed an inmate trying to swallow something during a booking search, this deputy forced the inmate to cough up the object, which turned out to be a balloon of heroin. Because of the deputy's action, narcotics were prevented from entering the facility.

1. When this CO observed a fire in a dormitory under construction, he pulled the fire alarm, reported the fire to the main office, and led the inmate fire team to suppress the fire while the remainder of the staff accounted for the other inmates.

18. When this CO was assigned to read inmate mail and to open packages, he found a letter telling an inmate where alcohol had been dropped for him near the facility. The CO also noticed that a jar of hair grease in a package was not factory sealed, so opened it and found marijuana.

22. During a routine dormitory housekeeping inspection, this CO noticed that the bed was not level. Upon closer inspection he found a narcotic stashed under a loose tile.

48. When processing an inmate for release, this deputy checked photographs and fingerprints, which revealed that another inmate was trying to escape by passing himself off as the inmate being released.

60. When this CO saw on the monitoring screen that two other COs needed help subduing a violent inmate, this CO activated the panic alarm and responded to the emergency.

102. When this CO was handed a suspicious-looking medication tube from a visitor, this CO examined the tube, then opened it, finding heroin hidden inside.

110. While making a routine module check, this CO spotted an ace bandage tied to the upper bars of an isolation cell. He went to the cell immediately and found an inmate hanging from the bars. He then called for help and held the inmate's weight until assistance arrived.

141. When, during a routine security check, this CO observed through an open window three inmates passing a cigarette around, he advised his assisting officer of the matter. Both officers approached the group without being seen and caught them smoking marijuana.

180. This CO escorted the wrong inmate to the release desk, processed, and released him. The inmate had the same last name as the one to be released, but the deputy did not use the physical description and photo he had available to verify the inmate's identity.

237. When a person was seen loitering in the parking lot of the work furlough center, this CO went out and asked this person what he was doing.

269. When, during a routine cell search, this CO noticed blood on a ceiling air vent in the cell area, he photographed the blood, and wrote a report. This was evidence in the county's favor when the released inmate claimed he fell in the shower and wanted to sue the county for negligence.

278. While on a security check of the grounds, this CO observed an inmate furtively discarding a cigarette. He investigated and smelled the odor of marijuana. Then he removed the inmate from a low security setting.

Appendix B2

**Summary of Job Analysis Data**
**Pertaining to Hearing Job Demands of the**
**Juvenile Counselor Job**

| Tasks | Incumbents | Supervisors |
|---|---|---|
| 1. Listen for unusual sounds, or sounds that may indicate illegal activity or disturbance (for example, whispering, scuffling, sudden quiet or change in noise level, horn honking, rattling of chain link fence). | 6.4 | 3.9 |
| 2. Answer juveniles' questions about the facility, staff counselors' roles, juveniles' legal status, and the juvenile justice system. | 5.8 | 3.8 |
| 3. Respond to juveniles' questions or requests. | 7.6 | 4.2 |
| 4. Interview juveniles following a serious rule infraction and make a written report. | 5.2 | 4.4 |
| 5. Monitor and supervise juveniles' phone calls. | 5.6 | 3.5 |
| 6. Conduct on-the-spot (for example, crisis intervention) counseling with juveniles. | 5.8 | 4.5 |
| 7. Confer with others about status of juveniles (for example, other counselors, probation officers, court personnel, mental health workers). | 5.4 | 3.9 |
| 8. Talk to prior shift to acquire information and, later, to oncoming shift to pass on information. | 7.2 | 4.6 |
| 9. Communicate via intercom and/or telephone with central control or other personnel within facility (for example, to request door unlocking). | 6.3 | 3.5 |
| 10. Call central control or other appropriate area to inform them of juvenile movement (for example, juvenile issued a pass to go somewhere, juvenile sent to dining hall). | 6.0 | 3.3 |

**Summary of Job Analysis Data Pertaining to Hearing Job Demands of the Juvenile Counselor Job**

| Tasks | Incumbents | Supervisors |
|---|---|---|
| 11. Answer questions and provide information in person to persons visiting the facility. | 4.4 | 3.6 |
| 12. Answer incoming phone calls, giving information (about facility policies, individual juveniles); route calls or take messages. | 5.7 | 3.3 |
| **KSAs** | | |
| 1. Hearing acuity such as that needed to detect relatively quiet sounds that may indicate illegal activity or disturbance, such as whispering or scuffling, or to detect subtle changes in noise level. | 3.3 | 3.1 |
| 2. Skill in communicating orally. | 3.6 | 3.7 |
| 3. Skill in accurately observing and documenting individual and group behavior (verbal and nonverbal). | 3.6 | 3.6 |
| 4. Ability to understand and follow oral instructions from supervisors and others. | 3.5 | 3.7 |

## JUVENILE COUNSELORS

### EXAMPLES OF CRITICAL INCIDENTS INVOLVING HEARING

Drawn from critical incidents collected in development of performance rating scales.

17. When he overhead a child telling a friend that she was going to run away, this staff reported the incident to the supervisor, and then counseled the child about the consequences of the behavior.

81. When this JC on a late shift heard a locker door close in a section of the dorm, he alerted the shift supervisor, checked the wards and found one ward fully clothed.

199. After hearing a choking sound coming from a suicidal minor's room, this JC entered and found a twisted sheet. The JC then removed the sheet and recorded in the minor's chart "minor tried to kill himself".

241. While transporting five minors, this JC was told by one of the minors "Joe has a knife hidden in his bedroll," in a very soft voice. The JC appeared to ignore the minor's remark and loudly reprimanded him for talking. When they reached the destination, the JC notified the staff who searched and found the knife.

378. When a ward seemed to talk with a speech impediment, after he had gone through the intake process, this counselor visually searched the ward's mouth and discovered a small packet of narcotics between teeth and gums.

120. On a night when there had been considerable AWOL talk, this JC heard an unusual sound coming from down the hall that stopped every time he walked down to investigate. He then took his shoes off, walked silently down the hall, and when he identified the room from which the sound was coming, he had the "field men" check the outside screen.

326. While supervising 20 wards in the dayroom, this JC noticed an unusual quiet and that several wards were watching him carefully. He moved his location to better observe the whole group, saw a window being pried open and called in backups.

**Summary of the Job Analysis Data Pertaining to the Vision Job Demands of the Juvenile Counselor Job**

| Tasks | Incumbents | Supervisors |
|---|---|---|
| 1. Watch for indications of illegal activity or disturbance in normal lighting (for example, inside facility while lights are on or outside facility during daylight hours). | 6.5 | 4.0 |
| 2. Watch for indications of illegal activity or disturbance in relative darkness (for example, visually check juveniles in relatively dark room or dorm, perceive a flash of car lights or movement outside at night). | 6.2 | 3.9 |
| 3. Observe juvenile in receiving room/ holding unit while he/she awaits move to assigned housing. | 3.4 | 2.6 |
| 4. Escort juveniles individually or in groups to and from locations within facility (for example, calssrooms, work details, infirmary, court holding room, interview, visiting, or phone rooms). | 6.6 | 3.7 |
| 5. Inspect rooms/dorms, room contents, and other areas for cleanliness. | 6.7 | 3.9 |
| 6. Pass out medication, observe juvenile taking it, and record if taken or refused. | 6.2 | 4.0 |
| 7. Supervise juveniles' in dining hall, cafeteria, or food service area, monitoring and maintaining control. | 6.8 | 4.2 |
| 8. Supervise juveniles activity in exercise room or jail. | 6.8 | 4.2 |
| 9. Supervise juvenile working in juvenile institution areas (sweeping, cleaning, removing trash, working in kitchen, soing laundry). | 6.3 | 3.9 |

**Summary of the Job Analysis Data Pertaining to the Vision Job Demands of the Juvenile Counselor Job**

| Tasks | Incumbents | Supervisors |
|---|---|---|
| 10. Log all juvenile movement in and out of rooms and facility (for example, transportation, transfers, bookings, discharges, and work details). | 6.4 | 3.9 |
| 11. Count juveniles. | 7.5 | 4.5 |
| 12. Verify juvenile counts against roster, log, or computer-listed numbers. | 7.1 | 4.2 |
| 13. Maintain visual contact with all juveniles. | 7.8 | 4.4 |
| 14. Make security rounds/checks, making visual check of juveniles. | 7.8 | 4.5 |
| 15. Conduct security checks of rooms, room fixtures, bars, locks, windows, doors, kitchen equipment. | 6.4 | 3.9 |
| 16. Conduct search of rooms/units/dormitories. | 5.5 | 4.1 |
| 17. Check/search all areas accessible to juveniles (for example, dayrooms, kitchen, library, visiting rooms, recreation areas) for contraband, weapons, or other evidence of unauthorized or illegal activities. | 6.0 | 4.1 |
| 18. Search articles, packages, property, money left by visitors for juveniles. | 4.7 | 4.0 |
| 19. Read unit log entries. | 7.2 | 4.4 |
| 20. Read juveniles' records, noting special handling codes (for example, security risks, behavior problems, suicide risk). | 6.5 | 4.4 |
| KSAs | | |
| 1. "Daytime" visual acuity to be able to distinguish juveniles at a distance (or on a video monitor), detect any suspicious juvenile behavior or quick movements, to spot contraband. | 3.2 | 3.2 |

**Summary of Job Analysis Data**
**Pertaining to Vision Job Demands of the**
**Juvenile Counselor Job**

| KSAs | | Incumbents | Supervisors |
|---|---|---|---|
| 2. | "Nighttime" visual acuity to be able to see, in relatively dark rooms or dorms, if juveniles are in place and obeying rules or to detect suspicious movements, vehicles, etc. outside at night. | 3.2 | 3.2 |
| 3. | Peripheral visual acuity to be able to detect movement or light outside one's direct line of vision. | 3.1 | 3.0 |
| 4. | Color vision to be able to distinguish different colors used for prison clothing (color coded for security factors) or different color pills for medication, etc. | 2.9 | 2.8 |
| 5. | Depth perception to be able to detect relative positions of persons or objects (for example, to jump over obstacles, ditches.) | 2.7 | 2.5 |
| 6. | Skill in reading -- to be able to understand facility's forms, reports, and procedure manuals. | 3.6 | 3.7 |
| 7. | Skill in reading -- to be able to understand/interpret court reports, state codes, and institutional standard and other legal documents. | 3.4 | 3.5 |
| 8. | Skill in accurately observing and documenting individual and group behavior (verbal and nonverbal). | 3.6 | 3.6 |
| 9. | Skill in discerning and understanding signs of out-of-the-ordinary circumstances which indicate trouble. | 3.6 | 3.7 |
| 10. | Skill in searching rooms/units, vehicles, and other areas for contraband, weapons. | 3.4 | 3.4 |
| 11. | Skill in driving automobiles. | 2.8 | 3.2 |

**Summary of the Job Analysis Data Pertaining to Vision Job Demands of the Juvenile Counselor Position**

| KSAs | Incumbents | Supervisors |
|---|---|---|
| 12. Ability to notice subtle changes in behavior patterns. | 3.5 | 3.5 |
| 13. Ability to accurately recall visual detail such as faces, identification marks, and the order in which events occurred. | 3.3 | 3.1 |

JUVENILE COUNSELORS

EXAMPLES OF CRITICAL INCIDENTS INVOLVING HEARING

Drawn from critical incidents collected in development of performance rating scales.

2. When the JC observed a suspicious vehicle in the parking lot, he recorded the license plate number and reported the incident to his supervisor and law enforcement.

26. While supervising 20 restless and unruly wards on a play field, this JC observed a ward trying to conceal an object under a bush. The officer went to the bush, retrieved a pair of pliers and confronted the ward involved.

66. During a routine room check, this JC observed a minor staring into space and slowly twisting a piece of torn sheet into what looked like a noose. This JC immediately informed his co-worker to contact the medical staff while he stayed with the inmate.

76. When a ward was observed to be hiding something in his shoe during visiting hours, this staff carefully searched and confiscated a marijuana cigarette from the ward.

93. During a 30 minute room check at night, this staff noticed that a resident's shoes did not have shoe laces. He then entered the room and found the laces tied together under the blanket, with some torn and tied sheets.

129. When a ward was observed putting two sets of clothing on and removing all his personal property from his locker, this JC took possession of the property, took the ward to a secured area, and referred the ward to the supervisor. The ward later acknowledged the intention to escape.

159. When a mother and two brothers came to visit a juvenile, the brothers drove around the side of the building while the mother visited. This staff noticed the suspicious behavior, and, with another staff, directed them to move to a specific parking place. They were then kept under surveillance until they left. A search revealed marijuana hidden by a dumpster.

184. While doing an outside security check, this JC noticed a window screen missing and notified maintenance. He then stayed by the window until the repairman arrived.

335. When this JC observed a ward run behind a school building on the facility grounds, he alerted Movement and Control, pursued the ward, and was able to return him to the proper place.

343. When this JC observed a minor who had just returned to the dorm from a furlough acting unusually, he decided to search the minor, even though he was to have been searched prior to his return to the dorm. Upon doing so he discovered contraband in the minor's possession.

346. When the counselor noticed two wards continually scratch their heads, he sent the wards to the nurse and upon finding head lice had the entire unit decontaminated.

347. This JC observed a minor attempting to escape by climbing over the wall. He called Movement and Control for assistance and tried to talk the minor into not climbing the wall.

353. This JC noticed a small fire in a room. He called Control and described the emergency. He then put out the fire using the fire extinguisher.

357. When this JC noticed a group of ten boys walking toward the wall during an evening recreational period, he reported the incident to Control and returned the remainder of the group to the unit. He then had Control stop the boys.

396. While doing a routine room check, this JC noticed a boy having difficulty standing. He immediately called the nurse and helped the boy to his bed.

Appendix B3

**Summary of Job Analysis Data**
**Pertaining to Hearing Job Demands of the**
**Probation Officer Job**

| Tasks | Incumbents | Supervisors |
|---|---|---|
| 1. Discuss circumstances of the charges with arresting officer. | 2.2 | 1.8 |
| 2. Contact parent, guardian or responsible relative to notify them that juvenile is in custody. | 1.7 | 1.6 |
| 3. Interview defendant in custody to determine whether to release on own recognizance or to reduce bail. | .6 | 1.2 |
| 4. Discuss circumstances of charges against individual requesting O.R. or bail reduction with arresting officer or others in the criminal justice system. | .8 | 1.2 |
| 5. Interview spouse/employer, and/or others in the criminal justice system. | .8 | 1.4 |
| 6. Advise juvenile status offender (601) or law violator (602) of his/her constitutional rights or Miranda warnings, and ensure juvenile understands rights. | 2.4 | 2.4 |
| 7. Interview juvenile to obtain background information and information about the offense; record this information for file. | 2.6 | 2.9 |
| 8. Interview parent or other adult associated with juvenile to obtain background information and information about the offense; (record this information for the file). | 2.6 | 2.8 |
| 9. Interview nondefendant juvenile (juvenile <u>other</u> than the juvenile booked or cited) to obtain background information and/or information about the offense; (record this information for the file). | 1.1 | 1.1 |
| 10. Discuss case with District Attorney to determine whether there is sufficient evidence to file charges, and whether the seriousness of the offense warrants filing. | 1.6 | 2.1 |

**Summary of Job Analysis Data**
**Pertaining to Hearing Job Demands of the**
**Probation Officer Job**

| Tasks | Incumbents | Supervisors |
|---|---|---|
| 11. Conduct intake interview with adult who has pled or been found guilty of an offense. | 2.6 | 2.9 |
| 12. Interview juvenile/adult and co-defendants to get their descriptions of the offense and background information. | 3.9 | 3.7 |
| 13. Interview members of juveniles/adults immediate family, relatives, neighbors, employers, school officials, character references and others about the social, educational, and work history and adjustment of the juvenile/adult. | 4.2 | 3.4 |
| 14. Interview witnesses and/or victims to get their descriptions of the offense. | 3.5 | 3.4 |
| 15. Interview persons in the criminal justice system (such as arresting officers, District Attorney, defense attorney) to get their description of the offense. | 3.0 | 2.8 |
| 16. Interview new probationer to assess his/her needs. | 3.2 | 3.3 |
| 17. Interview new probationer to assess the risk she/he poses to the community. | 2.9 | 3.2 |
| 18. Consult with outside agencies to which the probationer has previously been referred to get their input (for example, for development of a treatment plan). | 2.9 | 3.3 |
| 19. Review terms and conditions of probation with police agency in probationer's area of residence. | 1.4 | 1.4 |
| KSAs | | |
| 1. Skill in listening. | 3.6 | 3.6 |

## PROBATION OFFICER
## EXAMPLES OF CRITICAL INCIDENTS INVOLVING HEARING

Drawn from critical incidents collected in
the development of performance rating scales.

60. When interviewing a defendant regarding child abuse, this PO became suspicious about his reported social history. He contacted family members and school personnel and found that the defendant had a history of severe emotional problems.

64. When he received a call from an irate probationer, this PO listened attentively, offered help in clarifying the situation, remained calm and showed concern for the probationer.

74. When a ward and another PO were having a loud argument, this PO intervened and walked the angry ward away from the PO.

95. When a probationer's wife called indicating that he was very ill, this PO went to the residence, where he saw the probationer shaking on his bed. Although he claimed to have stomach flu, the PO found fresh needle marks in his arm and an injection kit in his jacket.

102. When a new probationer showed signs of hostility, anxiety, and paranoia, this PO completely reviewed the case file and interviewed the probationer. He directed probationer to resume psychiatric treatment and medication at mental health facility.

118. When he received a phone call from a minor who wanted to run away, because she had just had a fight with her mother, this PO asked her to stay there until he arrived and also talked with the mother. He then went to the residence, discussed difficulties and counseled with all parties involved.

172. When a minor was apprehended for taking a woman's purse and was taken to juvenile hall, this PO phoned the parents, told them of the charges, and had them come in to talk about the situation and to advise them about the rest of the legal process.

179. When a probationer called threatening to commit suicide, this PO immediately notified the police and his family, then went to his house, and listened to him. The PO then took the probationer to the suicide prevention center.

201. When a defendant was reticent to relate his background history, this PO phoned the defendant's home state to gather information and found that he had been giving a false name.

345. When a client called him, indicating that he was going to commit suicide, this PO contacted the parent's work and also notified the police, then proceeded to the home.

357. When this PO called a defendant to set up an initial interview, the defendant made some bizarre statements. The PO ascertained that an appointment was scheduled with a therapist, encouraged the defendant, and notified the therapist of the situation.

393. When interviewing a juvenile for a social history, this PO learned that the minor's father had murdered a man, but that the case was still unsolved. The PO had the father arrested, tried and convicted.

404. When, during a review of the arrest record, the defendant claimed that an entry from a city several hundred miles away was in error, this PO called the other police department which substantiated the defendant's claim.

519. When a probationer expressed suicidal thoughts, this PO talked to him, determined that suicide was a possibility, and informed other staff of this possibility. He then notified the psychologist and the probationer's parents.

**Summary of Job Analysis Data Pertaining to Vision Job Demands of the Probation Officer Job**

| Tasks | Incumbents | Supervisors |
|---|---|---|
| 1. Search probationer's residence (with or without police assistance) for contraband, weapons, or other evidence of violation of law or probation. | 1.1 | 2.0 |
| 2. Search probationer's automobile (with or without police assistance) for contraband, weapons, or other evidence of violation of law or probation. | .8 | 1.8 |
| 3. Search probationer's person (with or without police assistance) for contraband, weapons, or other evidence of violation of law or probation. | 1.0 | 2.1 |
| 4. Review District Attorney's file, court referrals, police report. | 4.4 | 3.7 |
| 5. Review CIA/FBI Rapsheet, DMV printout, probation file. | 4.7 | 3.7 |
| 6. Read penal code and determinate sentencing manual. | 2.1 | 2.7 |
| 7. Review probationer's file. | 3.9 | 3.6 |
| 8. Review report forms submitted by probationers. | 2.5 | 2.6 |
| 9. Review reports to monitor payment of fines, restitution. | 3.0 | 2.8 |
| 10. Check for physical signs of drug abuse by probationer. | 2.1 | 2.6 |
| 11. Proofread/edit reports that have been typed. | 5.5 | 3.9 |
| 12. Transport individuals. | 1.6 | 2.1 |
| KSAs | | |
| 1. "Daytime" visual acuity to be able to distinguish individuals at a distance, detect suspicious behavior or quick movements or spot contraband. | 1.4 | 1.2 |

**Summary of Job Analysis Data**
**Pertaining to Vision Job Demands of the**
**Probation Officer Job**

| KSAs | Incumbents | Supervisors |
|---|---|---|
| 2. "Nighttime" visual acuity to be able to see outside at night to monitor probationer's behavior, detect suspicious movements, spot contraband. | 1.2 | 1.0 |
| 3. Depth perception to be able to detect relative positions of persons or objects, for example, to jump over obstacles. | 1.1 | .9 |
| 4. Skill in observing and accurately documenting behavior (verbal and nonverbal). | 3.3 | 3.5 |
| 5. Skill in searching persons for contraband or weapons. | 2.2 | 2.1 |
| 6. Skill in searching vehicles for contraband or weapons. | 1.8 | 1.5 |
| 7. Skill in searching residence or institutional facilities for contraband or weapons. | 1.8 | 1.6 |
| 8. Skill in driving a car. | 3.4 | 3.5 |
| 9. Ability to recognize small details when searching or doing surveillance. | 2.1 | 1.9 |

PROBATION OFFICER
EXAMPLES OF CRITICAL INCIDENTS INVOLVING VISION

Drawn from critical incidents collected in the development of performance rating scales.

3. When he observed a marijuana plant on a table in a probationer's home, this PO told him to get rid of it.

46. When, just before an interview with a probationer, this PO found outstanding warrants on the probationer, he called the Marshall's office and continued the interview, detaining the probationer until the officers arrived.

58. When assigned a new investigation on an old closed case, for which the case file could not be found, this PO used the CRT to obtain dates and the court number, then obtained a copy of the probation report from the court. He was then able to determine the seriousness of the matter in the light of past offenses.

59. When a minor claimed to have been struck by the two police officers who brought him in, this intake officer observed bruises on the minor's ribs and dried blood on his forehead. The officer then had a nurse examine him and provided him with materials to make a written statement. He also notified his supervisor and requested a further investigation.

81. When this PO received a new case for supervision, he logged in the case, read the file, noted specific court orders, assessed service needs and sent an appointment letter.

83. When this PO arrived at a ward's home to discuss with the parents the whereabouts of their son, who had recently AWOL-ed from the Juvenile facility, he saw the minor running out the back door. He then called police dispatch, summoned officers to the residence and searched the neighboring area.

94. When, during a home visit, a probationer acted suspicious and nervous and this PO noticed a new TV and stereo unit in the probationer's bedroom, the PO directed him to sit on the couch while the serial numbers were run.

95. When a probationer's wife called, indicating that he was very ill, this PO went to the residence where he saw the probationer shaking on his bed. Although he claimed to have stomach flu, the PO found fresh needle marks in his arm and an injection kit in his jacket.

97. When a probationer who had a non-association order with minors was seen around the corner from an elementary school, this PO maintained watch rather than making immediate contact with the probationer.

99. When this PO spotted a probationer with an outstanding warrant in a movie theater, he called the police, informed them of the situation and waited until the probationer came out, at which time he was arrested.

100. While reading a court report, this PO noticed that the probationer babysat two other neighborhood children, along with his own. The PO requested an appointment with the probationer and his wife and explained that, due to his non-association order, he could not babysit unrelated minors.

124. When this off-duty PO saw a boy's ranch escapee and his girlfriend in a store, he attempted to take them into custody, even though the PO was alone and knew the probationer was aggressive.

141. This PO observed that a probationer seemed to be under the influence of a drug and had significant injection sites. She took a urine sample from him and had the narcotics officers determine if he was violating probation by using drugs.

148. When he observed a probationer driving home, despite a court condition not to operate a motor vehicle, this PO confronted the probationer, then filed a petition for a probation violation to inform the court.

165. During a home visit, the PO observed a probationer whose license had been suspended for 3 years driving up in a family vehicle. The PO advised him that he was under arrest, contacted SPD and had the subject transported the to county jail.

177. When this PO noticed that 2 knives were missing and saw one inmate put something in his coat, he called for assistance, held and searched the inmate and found the knives.

186. During a home visit, the PO noticed signs of child abuse, and reported this to his supervisor. When an investigation confirmed the suspicion, the PO called the proper authorities.

285. When he observed a minor running down the hallway at the juvenile center, this PO realized that the minor had escaped from detention. He gave chase, caught up with the minor, and held him until others arrived.

286. When, during a routine ride along with a local police unit, this PO noticed an at-large ward participating in an armed robbery, he assisted police by calling in other units on the radio and translated the Miranda rights to the non-English speaking suspects. He later served as a witness in curt.

325. When this PO thought he recognized one of his probationers on an FBI wanted list, he notified the FBI and the local police.

326. During a routine home visit, this PO noticed some people smoking marijuana. After he left, he asked law enforcement to conduct a probation search of the residence.

377. This PO approached a probationer who was walking around the office area without supervision. His speech was slow, and his eyes constricted. The PO asked him some general information and walked him toward a more secure place. He then obtained help from another PO, and they detained him until the police arrived.

389. When he observed a previously released probationer in a neighborhood where he appeared suspicious, this PO informed the police of the situation.

399. When he suspected that the person appearing in court was not the one that had committed the offense, this PO obtained a picture of this person and contacted the arresting officer to make an identification.

445. When, during a routine investigation, this PO noticed a family member who fidgeted and was unable to make eye contact, he talked with her separately later. He discovered that the stepfather had sexually abused the children and phoned the Child Protection Service.

469. After observing a parent hand a small package to a minor, who put it in his sock, this PO immediately advised the juvenile hall custody staff. They searched the minor and found a package of cigarettes.

470. While in court, this PO observed that the accused had a large knife under his coat. He notified the bailiff immediately.

472. When he observed an individual with an outstanding warrant at a local show, this PO verified the warrant, and then sought the assistance of local police.

483. When in the process of filing a violation of probation, this PO noticed that he was missing the (required) police reports.

518. When this PO noticed a disturbed looking individual enter the workplace and leave a small package in the men's room, he notified his supervisor and contacted the police. He then dispatched another worker to watch the individual and waited for the police to arrive.

Appendix C1

| SOURCE | | | | DIMENSION | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TASK | KSA | CRIT INC | RATING | 1 | 2 | 3 | 4 | 5A | 5B |
| 1 | | | 5.2 | X | X | X | X | | |
| 2 | | | 4.8 | | | | | X | X |
| 3 | | | 5.6 | | | | | X | X |
| 4 | | | 5.7 | | | | | X | X |
| 5 | | | 5.0 | | | | | X | X |
| 6 | | | 5.2 | | | | | X | X |
| 7 | | | 4.8 | | | | | X | X |
| 8 | | | 4.8 | | | | | X | X |
| 9 | | | 3.7 | | | | | X | X |
| 10 | | | 4.2 | | | | | X | X |
| 11 | | | 3.5 | | | | | X | X |
| 12 | | | 3.4 | | | | | X | X |
| | 1 | | 5.6 | X | X | X | X | | |
| | 2 | | 6.0 | | | | | X | X |
| | 3 | | 5.9 | X | X | X | X | | |
| | 4 | | 5.5 | | | | | X | X |
| | 5 | | 5.3 | | | | | X | X |
| | 6 | | 5.9 | | | | | X | X |
| | 7 | | 5.2 | | | | | X | X |
| | | 120 | | X | X | X | X | | |
| | | 150 | | | | X | X | | |
| | | 324 | | | | X | X | | |
| | | 59 | | | | | | X | X |
| | | 112 | | | | | | X | X |
| | | 280 | | | X | X | X | | |

| SOURCE | | | | DIMENSION | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TASK | KSA | CRIT INC | RATING | 1 | 2 | 3 | 4 | 5A | 5B |
| | | 332 | | | | | | X | X |
| | | 205 | | X | X | X | X | | |
| | | 224 | | X | | | X | | |
| | | 74 | | | | | | X | X |
| | | 99 | | | | | | X | X |
| | | 121 | | | | | | X | X |
| | | 164 | | X | X | X | X | | |
| | | 14 | | | | | | X | X |
| | | 72 | | | | | | X | X |
| | | 86 | | | | | | X | X |
| | | 93 | | | | | | X | X |
| | | 113 | | | | | | X | X |
| | | 117 | | | | | | X | X |
| | | 208 | | | | | | X | X |
| | | 211 | | | | | | X | X |
| | | 212 | | | | | | X | X |
| | | 235 | | X | X | X | X | X | X |
| | | | | | | | | | |
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| SOURCE | | | | DIMENSION | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TASK | KSA | CRIT INC | RATING | 1 | 2 | 3 | 4 | | |
| 1 | | | 5.2 | | X | | X | | |
| 2 | | | 5.5 | | X | | X | | |
| 3 | | | 5.2 | X | | | | | |
| 4 | | | 5.2 | X | X | | | | |
| 5 | | | 4.3 | | X | | | | |
| 6 | | | 4.3 | a | a | a | a | | |
| 7 | | | 5.2 | X | | | | | |
| 8 | | | 5.1 | X | | | | | |
| 9 | | | 5.9 | X | X | | | | |
| 10 | | | 5.7 | | X | | | | |
| 11 | | | 5.8 | | X | | | | |
| 12 | | | 5.7 | X | X | | | | |
| 13 | | | 5.5 | X | X | | | | |
| 14 | | | 5.0 | | X | | | | |
| 15 | | | 5.9 | X | X | | | | |
| 16 | | | 5.8 | | X | | | | |
| 17 | | | 5.0 | | X | | | | |
| 18 | | | 4.7 | | X | | | | |
| 19 | | | 4.9 | | X | | | | |
| 20 | | | 4.9 | X | X | | | | |
| 21 | | | 5.6 | X | | | | | |
| 22 | | | 5.4 | X | | | | | |
| 23 | | | 5.7 | X | | | | | |
| 24 | | | 5.1 | X | | | | | |
| 25 | | | 5.4 | X | X | | | | |

[a]Requires a driver's license

| SOURCE | | | | DIMENSION | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TASK | KSA | CRIT INC | RATING | 1 | 2 | 3 | 4 | | |
| | 1 | | 5.6 | | X | | X | | |
| | 2 | | 5.6 | | X | | X | | |
| | 3 | | 5.5 | | | | X | | |
| | 4 | | 5.2 | | | X | | | |
| | 5 | | 5.0 | X | X | | | | |
| | 6 | | 5.7 | X | X | | | | |
| | 7 | | 5.5 | | X | | | | |
| | 8 | | 6.0 | X | | | | | |
| | 9 | | 5.7 | X | X | | | | |
| | 10 | | 5.9 | X | X | X | | | |
| | 11 | | 5.2 | | X | | | | |
| | 12 | | 3.8 | a | a | a | a | | |
| | 13 | | 4.5 | X | | | | | |
| | | 198 | | X | | | | | |
| | | 219 | | | X | | | | |
| | | 107 | | | X | | | | |
| | | 135 | | | X | | | | |
| | | 193 | | X | | | | | |
| | | 207 | | X | X | | | | |
| | | 259 | | X | | | | | |
| | | 349 | | | X | | | | |
| | | 1 | | | X | | | | |
| | | 18 | | X | | | | | |
| | | 22 | | | X | | | | |
| | | 48 | | X | | | | | |

[a]Requires a driver's license

| SOURCE | | | | DIMENSION | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TASK | KSA | CRIT INC | RATING | 1 | 2 | 3 | 4 | | |
| | | 60 | | | X | | | | |
| | | 102 | | X | | | | | |
| | | 110 | | | X | | | | |
| | | 141 | | | X | | | | |
| | | 180 | | X | X | | | | |
| | | 237 | | | X | | | | |
| | | 269 | | | X | X | | | |
| | | 278 | | | X | | | | |
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Appendix C2

| SOURCE | | | | DIMENSION | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TASK | KSA | CRIT INC | RATING | 1 | 2 | 3 | 4 | 5A | 5B |
| 1 | | | 5.7 | X | X | X | X | | |
| 2 | | | 5.6 | | | | | X | X |
| 3 | | | 6.1 | | | | | X | X |
| 4 | | | 6.3 | | | | | X | X |
| 5 | | | 5.2 | | | | | X | X |
| 6 | | | 6.4 | | | | | X | X |
| 7 | | | 5.7 | | | | | X | X |
| 8 | | | 6.5 | | | | | X | X |
| 9 | | | 5.2 | | | | | X | X |
| 10 | | | 5.0 | | | | | X | X |
| 11 | | | 5.4 | | | | | X | X |
| 12 | | | 5.0 | | | | | X | X |
| | 1 | | 5.7 | X | X | X | X | | |
| | 2 | | 6.6 | | | | | X | X |
| | 3 | | 6.4 | | | | | X | X |
| | 4 | | 6.6 | | | | | X | X |
| | | 17 | | | | | | X | X |
| | | 81 | | X | X | X | X | | |
| | | 199 | | X | X | X | X | | |
| | | 241 | | | | | | X | X |
| | | 378 | | | | | | X | X |
| | | 120 | | X | X | X | X | | |
| | | 326 | | | | | X | | |
| | | | | | | | | | |
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| SOURCE | | | | DIMENSION | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TASK | KSA | CRIT INC | RATING | 1 | 2 | 3 | 4 | . | . |
| 1 | | | 5.7 | | X | | X | | |
| 2 | | | 5.8 | | X | | X | | |
| 3 | | | 5.5 | | X | | | | |
| 4 | | | 4.8 | a | a | a | a | | |
| 5 | | | 5.9 | X | | | | | |
| 6 | | | 5.8 | X | X | X | | | |
| 7 | | | 6.1 | | X | | | | |
| 8 | | | 6.1 | | X | | | | |
| 9 | | | 5.7 | | X | | | | |
| 10 | | | 5.7 | X | | | | | |
| 11 | | | 6.4 | X | X | | | | |
| 12 | | | 6.1 | X | | | | | |
| 13 | | | 6.3 | | X | | | | |
| 14 | | | 6.4 | | X | | | | |
| 15 | | | 5.7 | X | X | | | | |
| 16 | | | 5.9 | X | X | | | | |
| 17 | | | 5.9 | X | | | | | |
| 18 | | | 5.8 | X | | | | | |
| 19 | | | 6.3 | X | | | | | |
| 20 | | | 6.3 | X | | | | | |
| | 1 | | 5.9 | | X | | X | | |
| | 2 | | 5.9 | | X | | X | | |
| | 3 | | 5.6 | | | | X | | |
| | 4 | | 5.3 | | | X | | | |
| | 5 | | 4.9 | X | X | | | | |

[a]Requires a driver's license

| SOURCE | | | | DIMENSION | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TASK | KSA | CRIT INC | RATING | 1 | 2 | 3 | 4 | | |
| | 6 | | 6.6 | X | | | | | |
| | 7 | | 6.3 | X | | | | | |
| | 8 | | 6.4 | | X | | | | |
| | 9 | | 6.6 | X | X | X | | | |
| | 10 | | 6.2 | X | X | | | | |
| | 11 | | 5.9 | a | a | a | a | | |
| | 12 | | 6.3 | | X | | | | |
| | 13 | | 5.7 | X | X | | | | |
| | | 2 | | | X | | | | |
| | | 26 | | | X | | | | |
| | | 66 | | | X | | | | |
| | | 76 | | | X | | | | |
| | | 93 | | | X | | | | |
| | | 129 | | | X | | | | |
| | | 159 | | | X | | | | |
| | | 184 | | | X | | | | |
| | | 335 | | | X | | | | |
| | | 343 | | | X | | | | |
| | | 346 | | | X | | | | |
| | | 347 | | | X | | | | |
| | | 353 | | | X | | | | |
| | | 357 | | | X | | | | |
| | | 396 | | | X | | | | |
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[a]Requires a driver's license

Appendix C3

| SOURCE | | | | DIMENSION | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TASK | KSA | CRIT INC | RATING | 1 | 2 | 3 | 4 | 5A | 5B |
| 1 | | | 3.3 | | | | | X | X |
| 2 | | | 3.0 | | | | | X | X |
| 3 | | | 2.6 | | | | | X | X |
| 4 | | | 2.6 | | | | | X | X |
| 5 | | | 2.8 | | | | | X | X |
| 6 | | | 4.0 | | | | | X | X |
| 7 | | | 4.5 | | | | | X | X |
| 8 | | | 4.4 | | | | | X | X |
| 9 | | | 2.4 | | | | | X | X |
| 10 | | | 3.6 | | | | | X | X |
| 11 | | | 4.5 | | | | | X | X |
| 12 | | | 5.5 | | | | | X | X |
| 13 | | | 5.1 | | | | | X | X |
| 14 | | | 5.1 | | | | | X | X |
| 15 | | | 4.4 | | | | | X | X |
| 16 | | | 5.0 | | | | | X | X |
| 17 | | | 4.9 | | | | | X | X |
| 18 | | | 5.0 | | | | | X | X |
| 19 | | | 2.8 | | | | | X | X |
| | 1 | | 6.4 | | | | | X | X |
| | | 60 | | | | | | X | X |
| | | 64 | | | | | | X | X |
| | | 74 | | | | | | X | X |
| | | 95 | | | | | | X | X |
| | | 102 | | | | | | X | X |

| SOURCE | | | | DIMENSION | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TASK | KSA | CRIT INC | RATING | 1 | 2 | 3 | 4 | 5A | 5B |
| | | 118 | | | | | | X | X |
| | | 172 | | | | | | X | X |
| | | 179 | | | | | | X | X |
| | | 201 | | | | | | X | X |
| | | 345 | | | | | | X | X |
| | | 357 | | | | | | X | X |
| | | 393 | | | | | | X | X |
| | | 404 | | | | | | X | X |
| | | 519 | | | | | | X | X |
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| SOURCE | | | | DIMENSION | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TASK | KSA | CRIT INC | RATING | 1 | 2 | 3 | 4 | | |
| 1 | | | 3.5 | X | X | | | | |
| 2 | | | 3.3 | X | X | | | | |
| 3 | | | 3.6 | X | | | | | |
| 4 | | | 5.5 | X | | | | | |
| 5 | | | 5.5 | X | | | | | |
| 6 | | | 4.3 | X | | | | | |
| 7 | | | 5.4 | X | | | | | |
| 8 | | | 4.2 | X | | | | | |
| 9 | | | 4.4 | X | | | | | |
| 10 | | | 4.2 | X | | | | | |
| 11 | | | 5.7 | X | | | | | |
| 12 | | | 3.6 | a | a | a | a | | |
| | 1 | | 3.1 | | X | | X | | |
| | 2 | | 2.8 | | X | | X | | |
| | 3 | | 2.7 | X | X | | | | |
| | 4 | | 6.3 | | X | | | | |
| | 5 | | 4.3 | X | | | | | |
| | 6 | | 3.5 | X | X | | | | |
| | 7 | | 3.6 | X | X | | | | |
| | 8 | | 6.3 | a | a | a | a | | |
| | 9 | | 4.1 | X | X | | | | |
| | | 3 | | | X | | | | |
| | | 4 | | X | | | | | |
| | | 58 | | X | | | | | |
| | | 59 | | X | | | | | |

[a]Requires a driver's license

| SOURCE | | | | DIMENSION | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TASK | KSA | CRIT INC | RATING | 1 | 2 | 3 | 4 | | |
| | | 81 | | X | | | | | |
| | | 83 | | | X | | | | |
| | | 94 | | | X | | | | |
| | | 95 | | X | X | | | | |
| | | 97 | | | X | | | | |
| | | 99 | | | X | | | | |
| | | 100 | | X | | | | | |
| | | 124 | | | X | | | | |
| | | 141 | | X | X | | | | |
| | | 148 | | | X | | | | |
| | | 165 | | | X | | | | |
| | | 177 | | | X | | | | |
| | | 186 | | | X | | | | |
| | | 285 | | | X | | | | |
| | | 286 | | | X | | | | |
| | | 325 | | X | | | | | |
| | | 326 | | | X | | | | |
| | | 377 | | | X | | | | |
| | | 389 | | | X | | | | |
| | | 399 | | | X | | | | |
| | | 445 | | | X | | | | |
| | | 469 | | | X | | | | |
| | | 470 | | | X | | | | |
| | | 472 | | | X | | | | |
| | | 483 | | X | | | | | |

| SOURCE | | | | DIMENSION | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TASK | KSA | CRIT INC | RATING | 1 | 2 | 3 | 4 | | |
| | | 518 | | | X | | | | |
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Appendix D1

## CORRECTIONS OFFICERS

### Dimension

Sound Detection

### Proposed Guideline

None

### Rationale

Sound detection (the ability to detect sounds) is an inherent part of the other hearing dimensions for which guidelines have been set for Corrections Officers. Separate guidelines for sound detection would have been redundant with the guidelines set for several of the other hearing dimensions.

## CORRECTIONS OFFICERS

### Dimension

Sound location

### Proposed Guideline

In the better ear:

Pure-tone thresholds not worse than 15 dB HL at 500 Hz, 1000 Hz, 2000 Hz, and 3000 Hz.

In the poorer ear:

Same as that required for the better ear.

Hearing aids not acceptable.

Source: Nylander & Carmean, 1984

### Rationale

Job analysis and critical incidents data indicate that sound location is an important hearing dimension for Corrections Officers. Importance ratings indicate that the San Bernardino Medical Standards Project Guidelines (Nylander & Carmean, 1984) for a scale value greater than 5 are most appropriate.

# CORRECTIONS OFFICERS

## Dimension

**Sound Recognition/Discrimination**

## Proposed Guideline

**In the better ear:**

Pure-tone thresholds not worse than 15 dB HL at any 3 of the 4 frequencies of 500 Hz, 1000 Hz, 2000 Hz, or 3000 Hz.

**In the poorer ear:**

Same as required for the better ear.

Hearing aids not acceptable.

Source: Nylander & Carmean, 1984

## Rationale

Job analysis and critical incidents data indicate that sound recognition and sound discrimination are important hearing dimensions for Corrections Officers. The dimensions are so similar that they yield only one useful set of guidelines, however. Importance ratings indicate that the San Bernardino Medical Standards Project Guidelines (Nylander & Carmean, 1984) for a scale value greater than 5 are most appropriate.

# CORRECTIONS OFFICERS

## Dimension

Speech Comprehension in a Quiet Environment

## Proposed Guideline

In the better ear:

Pure-tone thresholds not worse than 29 dB HL at 500 Hz, 1000 Hz, 2000 Hz, and 3000 Hz.

In the poorer ear:

A hearing loss of any severity is acceptable.

Hearing aids acceptable if applicant wears at least one hearing and the aided speech reception threshold is not worse than 20 dB HL. Aided speech discrimination must exceed 49% at 50 dB HL in a sound field when using recorded CID W22 monosyllabic word lists.

Source: Nylander & Carmean, 1984.

## Rationale

Participating agencies must determine whether the guidelines for a quiet environment or those for a noisy environment are applicable.

Job analysis and critical incidents data indicate that speech comprehension is an important hearing dimension for Corrections Officers. Importance ratings indicate that the San Bernardino Medical Standards Project Guidelines (Nylander & Carmean, 1984) for a scale value between 3 and 5 are most appropriate.

# CORRECTIONS OFFICERS

## Dimension

Speech Comprehension in a Noisy Environment

## Proposed Guideline

In the better ear:

Pure-tone thresholds not worse than 20 dB HL at any 3 of the 4 frequencies of 500 Hz, 1000 Hz, 2000 Hz, or 3000 Hz.

In the poorer ear:

Pure-tone thresholds not worse than 30 dB HL at any 3 of the 4 frequencies of 500 Hz, 1000 Hz, 2000 Hz, or 3000 Hz.

Hearing aids acceptable if applicant wears binaural hearing aids and both aided speech reception thresholds are not worse than 20 dB HL. Aided speech discrimination for each ear must exceed 75% at 50 dB HL in a sound field when using recorded CID W22 monosyllabic word lists.

Source: Nylander & Carmean, 1984

## Rationale

Participating agencies must determine whether the guidelines for a quiet environment or those for a noisy environment are applicable.

Job analysis and critical incidents data indicate that speech comprehension is an important hearing dimension for Corrections Officers. Importance ratings indicate that the San Bernardino Medical Standards Project Guidelines (Nylander & Carmean, 1984) for a scale value between 3 and 5 are most appropriate.

Appendix D2

## JUVENILE COUNSELORS

### Dimension

Sound Detection

### Proposed Guideline

None

### Rationale

Sound detection (the ability to detect sounds) is an inherent part of the other hearing dimensions for which guidelines have been set for Juvenile Counselors. Separate guidelines for sound detection would have been redundant with the guidelines set for several of the other hearing dimensions.

## JUVENILE COUNSELORS

### Dimension

Sound Location

### Proposed Guideline

In the better ear:

Pure-tone thresholds not worse than 15 dB HL at 500 Hz, 1000Hz, 2000 Hz, and 3000 Hz.

In the poorer ear:

Same as that required for the better ear.

Hearing aids not acceptable.

Source: Nylander & Carmean, 1984

### Rationale

Job analysis and critical incidents data indicate that sound location is an important hearing dimension for Juvenile Counselors. Importance ratings indicate that the San Bernardino Medical Standards Project Guidelines (Nylander & Carmean, 1984) for a scale value greater than 5 are most appropriate.

# JUVENILE COUNSELORS

## Dimension

Sound Recognition/Discrimination

## Proposed Guideline

In the better ear:

Pure-tone thresholds not worse than 15 dB HL at any 3 of the 4 frequencies of 500 Hz, 1000 Hz, 2000 Hz, or 3000 Hz.

In the poorer:

Same as required for the better ear.

Hearing aids not acceptable.

Source: Nylander & Carmean, 1984

## Rationale

Job analysis and critical incidents data indicate that sound recognition and sound discrimination are important hearing dimensions for Juvenile Counselors. The dimensions are so similar that they yield only one useful set of guidelines, however. Importance ratings indicate that the San Bernardino Medical Standards Project Guidelines (Nylander & Carmean, 1984) for a scale value greater than 5 are most appropriate.

# JUVENILE COUNSELORS

## Dimension

Speech Comprehension in a Quiet Environment

## Proposed Guideline

In the better ear:

Pure-tone thresholds not worse than 15 dB HL at 500 Hz, 1000 Hz, 2000 Hz, and 3000 Hz.

In the poorer ear:

Pure-tone thresholds not worse than 15 dB HL at any 3 of the 4 frequencies of 500 Hz, 1000 Hz, 2000 Hz or 3000 Hz.

Hearing aids acceptable if applicant wears binaural hearing aids and both aided speech reception thresholds are not worse than 20 dB HL. Aided speech discrimination for each ear must exceed 75% at 50 dB HL in sound field when using recorded CID W22 monosyllabic word lists.

Source: Nylander & Carmean, 1984.

## Rationale

Participating agencies must determine whether the guidelines for a quiet environment or those for a noisy environment are applicable.

Job analysis and critical incidents data indicate that speech comprehension is an important hearing dimension for Juvenile Counselors. Importance ratings indicate that the San Bernardino Medical Standards Project Guidelines (Nylander & Carmean, 1984) for a scale value greater than 5 are most appropriate.

# JUVENILE COUNSELORS

## Dimension

Speech Comprehension in a Noisy Environment

## Proposed Guideline

In the better ear:

Pure-tone thresholds not worse than 15 dB HL at 500 Hz, 1000 Hz, 2000 Hz, and 3000 Hz.

In the poorer ear:

Same as required for the better ear.

Hearing aids not usually acceptable (even if applicant wears binaural hearing aids) unless it can be shown that applicant can function well in the actual job environment.

Source: Nylander & Carmean, 1984.

## Rationale

Participating agencies must determine whether the guidelines for a quiet environment or those for a noisy environment are applicable.

Job analysis and critical incidents data indicate that speech comprehension is an important hearing dimension for juvenile counselors. Importance ratings indicate that the San Bernardino Medical Standards Project Guidelines (Nylander & Carmean, 1984) for a scale value greater than 5 are most appropriate.

Appendix D3

## PROBATION OFFICERS

### Dimension

Sound Detection

### Proposed Guideline

None

### Rationale

Job analysis and critical incidents data indicate that sound detection is not an important hearing dimension for Probation Officers.

## PROBATION OFFICERS

### Dimension

Sound Location

### Proposed Guideline

None

### Rationale

Job analysis and critical incidents data indicate that sound location is not an important hearing dimension for Probation Officers.

## PROBATION OFFICERS

### Dimension

Sound Recognition/Discrimination

### Proposed Guideline

None

### Rationale

Job analysis and critical incidents data indicate that sound recognition and sound discrimination are not important hearing dimensions for Probation Officers.

# PROBATION OFFICERS

## Dimension

Speech Comprehension in a Quiet Environment

## Proposed Guideline

In the better ear:

Pure-tone thresholds not worse than 29 dB HL at 500 Hz, 1000 Hz, 2000 Hz, and 3000 Hz.

In the poorer ear:

A hearing loss of any severity is acceptable.

Hearing aid acceptable if applicant wears at least one hearing aid, and the aided speech reception threshold is not worse than 20 dB HL. Aided speech discrimination must exceed 49% at 80 dB HL in a sound field when using recorded CID W22 monosyllabic word lists.

Source: Nylander & Carmean, 1984.

## Rationale

Participating agencies must determine whether the guidelines for a quiet environment or those for a noisy environment are applicable.

Job analysis and critical incidents data indicate that speech comprehension is an important hearing dimension for Probation Officers. Importance ratings indicate that the San Bernardino Medical Standards Project Guidelines (Nylander & Carmean, 1984) for a scale value between 3 and 5 are most appropriate.

# PROBATION OFFICERS

## Dimension

Speech Comprehension in a Noisy Environment

## Proposed Guideline

In the better ear:

Pure-tone thresholds not worse than 20 dB HL at any 3 of the 4 frequencies of 500 Hz, 1000 Hz, 2000 Hz, or 3000 Hz.

In the poorer ear:

Pure-tone thresholds not worse than 30 dB HL at any 3 of the 4 frequencies of 500 Hz, 1000 Hz, 2000 Hz, or 3000 Hz.

Hearing aid acceptable if applicant wears binaural hearing aids and both aided speech reception thresholds are not worse than 20 dB HL. Aided speech discrimination for each ear must exceed 75% at 50 dB HL in a sound field when using recorded CID W22 monosyllabic word lists.

Source: Nylander & Carmean, 1984.

## Rationale

Participating agencies must determine whether the guidelines for a quiet environment or those for a noisy environment are applicable.

Job analysis and critical incidents data indicate that speech comprehension is an important hearing dimension for Probation Officers. Importance ratings indicate that the San Bernardino Medical Standards Project Guidelines (Nylander & Carmean, 1984) for a scale value between 3 and 5 are most appropriate.

Appendix E1

# CORRECTIONS OFFICERS

## Dimension

Peripheral Vision

## Proposed Guideline

Measured via automated perimetry, non-automated screening test, or clinical observation.

For either eye, disqualify for total absence of peripheral vision. Noticeable decrement of performance in either eye requires complete clinical evaluation to determine whether loss is sufficient to significantly impair job performance.

Source: John Kohls, personal communication, July 1985

## Rationale

Job analysis data indicate that peripheral vision is an important vision dimension for Juvenile Counselors. Peripheral vision is even more important if the position requires a drivers license. The proposed guideline, based on that developed by POST, is more stringent than that listed by Nylander & Carmean (1984) for positions requiring a Class I or Class II California drivers license.

## CORRECTIONS OFFICERS

### Dimension

Far Visual Acuity

### Proposed Guideline

Measured via an appropriate Sloan optotype chart, each eye should not be tested individually.

Corrected acuity of 20/20.

If wearing glasses or hard contact lenses, uncorrected far acuity of 20/80.

If wearing soft contact lenses, no uncorrected far acuity requirement.

For all corrected vision, stability of far acuity should be demonstrated.

Source: Kohls, personal communication, July 1985.

### Rationale

Job analysis data indicate that far visual acuity is the most important vision dimension for Corrections Officers.

Based upon visual acuity standards of other agencies, the proposed guideline represents the most restrictive guideline for far visual acuity. At the same time, this guideline should be sufficient to meet the visual acuity needs for a Class I or a Class II California drivers license.

# CORRECTIONS OFFICERS

## Dimension

Near Visual Acuity

## Proposed Guideline

As measured via telebinocular or Jaeger, corrected to at least J-6 in the better eye;
or, if driving is required,
20/40 (Snellen) in each eye with or without corrective lenses.

Source: Berkley, 1983;
Nylander & Carmean, 1984

## Rationale

Job analysis data indicate that near visual acuity is an important dimension of vision for Corrections Officers. The proposed guideline is equivalent to that set by another agency (Berkley, 1983) for a job with near identical vision demands.

A slightly more stringent guideline is proposed for positions requiring a drivers license. These guidelines are drawn from Nylander & Carmean (1984).

## CORRECTIONS OFFICERS

### Dimension

**Visual Color Discrimination**

### Proposed Guideline

**Measured via Farnsworth D-15 test. Applicants should be found to be free of significant color vision anomalies.**

Source: John Kohls, personal communication, July 1985.

### Rationale

Job analysis data indicate that visual color discrimination is an important vision dimension for Corrections Officers. This dimension is doubly important when the position requires a drivers license. The proposed guideline is more stringent than that necessary for positions requiring Class I or Class II California drivers license.

Appendix E2

# JUVENILE COUNSELORS

## Dimension

Far Visual Acuity

## Proposed Guideline

Measured via an appropriate Sloan optotype chart, each eye should not be tested individually.

Corrected acuity of 20/20.

If wearing glasses or hard contact lenses, uncorrected far acuity of 20/80.

If wearing soft contact lenses, no uncorrected far acuity requirement.

For all corrected vision, stability of far acuity should be demonstrated.

Source: John Kohls, personal communication, July 1985

## Rationale

Job analysis data indicate that far visual acuity is the most important vision dimension for Juvenile Counselors.

Based upon visual acuity standards of other agencies, the proposed guideline represents the most restrictive guideline for far visual acuity. At the same time, this guideline should be sufficient to meet the visual acuity needs for a Class I or a Class II California drivers license.

## JUVENILE COUNSELORS

### Dimension

Peripheral Vision

### Proposed Guideline

Measured via automated perimetry, non-automated screening test, or clinical observation.

For either eye, disqualify for total absence of peripheral vision. Noticeable decrement of performance in either eye requires complete clinical evaluation to determine whether loss is sufficient to significantly impair job performance.

Source: John Kohs, personal communication, July 1985

### Rationale

Job analysis data indicate that peripheral vision is an important vision dimension for Juvenile Counselors. Peripheral vision is even more important if the position requires a drivers license. The proposed guideline, based on that developed by POST, is more stringent than that listed by Nylander & Carmean (1984) for positions requiring a Class I or Class II California drivers license.

# JUVENILE COUNSELORS

## Dimension

Visual Color Discrimination

## Proposed Guideline

Measured via Farnsworth D-15 test. Applicants should be found to be free of significant color vision anomalies.

Source: John Kohls, personal communication, July 1985

## Rationale

Job analysis data indicate that visual color discrimination is an important vision dimension for Juvenile Counselors. This dimension is doubly important when the position requires a drivers license. The proposed guideline is more stringent than that necessary for positions requiring Class I or Class II California drivers license.

Appendix E3

# PROBATION OFFICERS

## Dimension

Near Visual Acuity

## Proposed Guideline

As measured via telebinocular or Jaeger, corrected to at least J-6 in the better eye:
or, if driving required:
20/40 (Snellen) in each eye with or without corrective lenses.

Source: Berkley, 1983;
Nylander & Carmean, 1984.

## Rationale

Job analysis data indicate that Probation Officers do a great deal of reading and, therefore, that near visual acuity is an important vision dimension. In addition, the job analysis data indicate that driving is an important skill for Probation Officers. The proposed guideline is based upon guidelines drawn from other agencies that were set for jobs where reading or driving are important skills.

## PROBATION OFFICERS

### Dimension

Far Visual Acuity

### Proposed Guideline

Far visual acuity should be measured via telebinocular or standard Snellen eye chart at a distance of 20 measured feet.

With eye glasses or contact lenses:

20/40 in one eye and 20/70 in the other, or
20/30 in one eye and 20/100 in the other, or
20/20 in one eye and 20/400 in the other.

Source: Berkley, 1983.

### Rationale

The job analysis data indicate that far visual acuity is an important vision dimension for Probation Officers. In addition, the job analysis data indicate that driving is an important skill for Probation Officers.

Based upon visual acuity standards of other agencies, the proposed guideline represents the least restrictive guideline for far visual acuity. At the same time, this guideline should be sufficient to meet the visual acuity needs for a Class I or a Class II California drivers license.

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## PROBATION OFFICERS

### Dimension

Peripheral Vision

### Proposed Guideline

NOTE: This guideline applies only to positions requiring a Class I or Class II California drivers license.

Field of vision of at least $70^{0}$ in the horizontal meridian in each eye.

Source: Nylander & Carmean, 1984.

### Rationale

The job analysis data do not indicate that peripheral vision is an important dimension for Probation Officers. The only exception to this finding is that Probation Officers who are required to drive must have at least minimal peripheral vision. The proposed guideline is that listed by Nylander & Carmean for positions requiring applicants to possess a Class I or Class II California drivers license.

## PROBATION OFFICERS

### Dimension

Visual Color Discrimination

### Proposed Guideline

NOTE: This guideline applies only to positions where a valid drivers license is required.

Ability to recognize the colors of traffic signals and devices showing standard red, green, and amber.

Source: Nylander & Carmean, 1984

### Rationale

The job analysis data do not indicate that visual color discrimination is an important dimension for Probation Officers. The only exception to this finding is tnat Probation Officers who are required to drive must have the ability to recognize the colors of traffic signals. The proposed guideline is that listed by Nylander & Carmean for positions requiring applicants to possess a Class I or Class II California drivers license.

Appendix F

## VITA

**NAME:** Neal Frank Viemeister

**HOME ADDRESS:**
1920 S. First St., #1404
Minneapolis, Minnesota 55454
Tel: (612) 333-4979

**OFFICE ADDRESS:**
Room N264 Elliott Hall
Department of Psychology
University of Minnesota
75 East River Road
Minneapolis, Minnesota 55455
Tel: (612) 373-3538, 373-4155

**BIOGRAPHICAL INFORMATION:**
Born January 14, 1944
Brooklyn, New York

**EDUCATIONAL HISTORY:**

| | |
|---|---|
| Undergraduate: | Grinnell College<br>B.A. in Physics, 1965 |
| Graduate: | Indiana University<br>Major: Sensory Psychology<br>Minors: Physiological Psychology<br>Learning<br><br>Outside Minor: Mathematics<br>Ph.D., 1970 |
| Postgraduate: | University of California,<br>San Diego, 1971-72 |

**PROFESSIONAL EXPERIENCE:**

| | |
|---|---|
| 1966-68 | Research Assistant<br>(Professor James P. Egan)<br>Indiana University |
| 1970 | Research Associate<br>(Professor James P. Egan)<br>University of Washington |
| 1970-71 | Visiting Assistant Professor<br>University of Minnesota |
| 1971-72 | NINDS Special Fellow<br>(Professor David M. Green,<br>Sponsor) University of<br>California San Diego |
| 1972-75 | Assistant Professor<br>University of Minnesota |

Viemeister

| | |
|---|---|
| 1975-79 | Associate Professor<br>University of Minnesota |
| 1979- | Professor<br>University of Minnesota |
| 1981 | Visiting Scientist<br>M.I.T. |
| 1985 | Visiting Scholar<br>University of Texas, Austin |

AWARDS AND HONORS:

| | |
|---|---|
| Graduate: | Woodrow Wilson Fellowship<br>Public Health Service Pre-doctoral Fellowship |
| Postgraduate: | NINDS Special Fellowship |

TEACHING AT U. OF M.:

1-004 Introductory Laboratory Psychology
5-861 Quantitative Methods in Psychology
8-037 Psychophysics and Audition
Topical seminars on audition, psychophysics, and quantitative methods

PROFESSIONAL AFFILIATIONS:

Acoustical Society of America

American Association for the Advancement of Science

Association for Research in Otolaryngology

NRC Committee on Hearing, Bioacoustics and Biomechanics(CHABA)

Center for Research in Human Learning

PUBLISHED PAPERS AND CHAPTERS:

Viemeister, N.F., Pierce, J., and Tyler, D.W. (1964). Bar press behavior reinforced by pup retrieval. Proc. Iowa Acad. Sci., 71, 429-432.

Dinsmoor, J.A., Flint, G.A., Smith, R.F., and Viemeister, N.F. (1969). Differential reinforcing effects associated with the presence or absence of a schedule of punishment. Chapter 14 in Hendry, D.P. (Ed.), Conditioned Reinforcement, The Dorsey Press, Inc., Homewood, Illinois.

Viemeister, N.F. (1970). Intensity discrimination: Performance in three paradigms. Perception and Psychophysics, 8, 417-419.

Viemeister, N.F. (1972). Intensity discrimination of pulsed sinusoids: The effects of filtered noise. J. Acoust. Soc. Amer., 51, 1265-1269.

Penner, M.J., and Viemeister, N.F. (1973). Intensity discrimination of clicks: The effects of click bandwidth and background noise. J. Acoust. Soc. Amer., 54, 1184-1188.

Viemeister, N.F. (1974). Intensity discrimination of noise in the presence of band-reject noise. J. Acoust. Soc. Amer., 56, 1594-1600.

Burns, E.M., and Viemeister, N.F. (1976). Nonspectral pitch. J. Acoust. Soc. Amer., 60, 863-869.

Viemeister, N.F. (1977). Temporal factors in audition: A system analysis approach. In Evans, E.F., and Wilson, J.P., Psychophysics and Physiology of Hearing. Academic Press.

Carney, A.E., Widin, G.P., and Viemeister, N.F. (1977). Noncategorical perception of stop consonants. J. Acoust. Soc. Amer., 62, 961-970.

Widin, G.P., and Viemeister, N.F. (1979). Intensive and temporal effects in pure-tone forward masking. J. Acoust. Soc. Amer., 66, 388-395.

Widin, G.P., and Viemeister, N.F. (1979). Short-term spectral effects in pure-tone forward masking. J. Acoust. Soc. Amer., 66, 396-399.

Viemeister, N.F. (1979). Temporal modulation transfer functions based upon modulation thresholds. J. Acoust. Soc. Amer., 66, 1364-1380.

Viemeister, N.F. (1980). Adaptation of Masking. In van den Brink, G. and Bilsen, F.A., Psychophysical, physiological and behavioral studies in hearing. Delft Univ. Press, Delft, The Netherlands, pp. 190-198.

Widin, G.P., and Viemeister, N.F. (1980). Masker interaction in pure-tone forward masking. J. Acoust. Soc. Amer., 68, 475-479.

Burns, E.M., and Viemeister, N.F. (1981). Played-again SAM: Further observations on the pitch of amplitude-modulated noise. J. Acoust. Soc. Amer., 70, .1655-1660.

Viemeister, N.F., and Bacon, S.P. (1982). Forward masking by enhanced components in harmonic complexes. J. Acoust. Soc. Amer., 71, 1502-1507.

Viemeister, N.F. (1983). "Auditory intensity discrimination at high frequencies in the presence of noise." Science, 221, 1206-1208.

Wakefield, G.H. and Viemeister, N.F. (1984). Selective adaptation of linear frequency-modulated sweeps; Evidence for direction specific FM channels? J. Acoust. Soc. Am., 75(5), 1588-1592.

Bacon, S.P. and Viemeister, N.F. (1985). Temporal Modulation Transfer Functions in normal-hearing and hearing-impaired listeners. Audiology, 24, 117-134.

Wakefield, G.H. and Viemeister, N.F. (1985). Temporal interactions between pure tones and amplitude-modulated noise. In press, J. Acoust. Soc. Am.

RECENT PUBLISHED ABSTRACTS

Viemeister, N.F. (1984). A selective review of the psychophysics of intensity discrimination. J. Acoust. Soc. Am., 76(S1), S4 (Abstract).

Bacon, S.P. and Viemeister, N.F. (1984). On the temporal course of simultaneous tone-on-tone masking. J. Acoust. Soc. Am., 76(S1), S75-76 (Abstract).

Wakefield, G.H. and Viemeister, N.F. (1984). The temporal course of a repulsion effect in auditory lateralization. J. Acoust. Soc. Am., 76(S1); S91 (Abstract)

Viemeister, N.F. and Wakefield, G.H. (1985). Psychophysics of envelope perception. A.R.O. Abstr., 170-171 (Abstract).

Viemeister, N.F., Javel, E., and Bacon, S.P. (1985). Psychophysical and physiological correlates of high-frequency tone decay. A.R.O. Abstr., 74-75 (Abstract).

RECENT PAPER SUBMISSIONS

Bacon, S.P. and Viemeister, N.F. Simultaneous masking by gated and continuous sinusoidal maskers. (Submitted 1/85 to J. Acoust. Soc. Am.).

Bacon, S.P. and Viemeister, N.F. The temporal course of simultaneous tone-on-tone masking. (Submitted 1/85 to J. Acoust. Soc. Am.).

Bacon, S.P. and Viemeister, N.F. A study of monaural diplacusis. (Submitted 1/85 to Hearing Res.).

EDITORIAL ACTIVITY:

Editorial review on regular basis for Journal of the Acoustical Society of America, Perception and Psychophysics, Hearing Research, and Science.

Viemeister

GRANTS:

Graduate School, University of Minnesota. One year, 1972, $10,000.
Graduate School, University of Minnesota. One year, 1973, $ 4,800.
N.I.H. Five years, 1975, $130,000 (approximate). Part of five year Clinical Research Center Grant awarded to Department of Otolaryngology, University of Minnesota).
Minnesota Pollution Control Agency. 1977, $500.
N.S.F. Travel Grant, 1977, $714.
University of Minnesota, Single Quarter Leave, 1979.
N.I.H. Three years, 1980, $107,000. (Renewal of grant listed above).
3M Corporation, Grant in Aid, 1982, $3000.
N.I.H. Five years, 1983, $242,000. (Renewal of grant listed above).
3M Corporation, Grant in Aid, 1984, $3000.

REVIEW BOARDS:

Veterans Administration Merit Review Board in Neurobiology (1977-1980).
Frequent ad hoc reviewer for N.I.H. and N.S.F.

# VITA

(July, 1985)


| Name | Birthdate |
|---|---|
| Jerry L. Yanz | February 5, 1949 |

Addresses

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## EDUCATION

| Institution and Location | Degree | Year Conferred | Field Of Study |
|---|---|---|---|
| Stanford Univ., Stanford, CA | B.A. | 1971 | English |
| Univ. of Iowa, Iowa City, IA | M.A. | 1976 | Audiology |
| Univ. of Iowa, Iowa City, IA | Ph.D. | 1980 | Audiology |

## EMPLOYMENT HISTORY

1971-1972 Psychoacoustics Laboratory Assistant, Stanford University, Stanford, California
1974-1976 Research Assistant, Department of Speech Pathology and Audiology, University of Iowa, Iowa City, Iowa
1973-1977 Teaching Assistant, Department of Speech Pathology and Audiology, University of Iowa, Iowa City, Iowa
1976-1977 Teaching Associate, Department of Otolaryngology and Maxillofacial Surgery, University of Iowa, Iowa City, Iowa
1977-1979 Audiologist, St. Luke's Methodist Hospital, Cedar Rapids, Iowa
1979-1980 Instructor, Department of Communication Disorders, University of Minnesota, Minneapolis, Minnesota
1980-1985 Assistant Professor, Department of Communication Disorders, University of Minnesota, Minneapolis, Minnesota.
7/85-Pres Audiologist and Director of Clinical Audiology, St. Paul Hearing Clinic, Inc., St. Paul, Minnesota

## PROFESSIONAL AFFILIATIONS

Member, Acoustical Society of America
Member, American Speech-Language-Hearing Association
Member, American Auditory Society
Member, Sigma Xi Scientific Research Society
Member, Minnesota Speech and Hearing Association

## CERTIFICATION

Certificate of Clinical Competence, Audiology

Yanz, JL, Abbas, PJ, Mendel, MI, and Harker, LA, Quantification of the whole-nerve action potential evoked by tone bursts. Paper presented at the American Speech and Hearing Association Convention, Chicago, Illinois, November, 1977.

Yanz, JL, and Abbas, PJ, Age effects in susceptibility to noise-induced hearing loss. J. Acoust. Soc. Am. 72, 1450-1455, 1982.

Yanz, JL, and Anderson, SM, Accuracy and criterion in the perception of speech by young and old listeners. Paper presented at the 104th Meeting of the Acoustical Society of America, Orlando, Florida, November, 1982.

Yanz, JL, A pure-tone audiometric simulator. Presentation to the Health Sciences Learning Resources Faculty Development Seminar: Developing Computerized Instructional Programs, University of Minnesota, May, 1983.

Yanz, JL, The auditory response cradle in neonatal assessment. Paper presented at the Spring Convention of the Minnesota Speech-Language-Hearing Association, St. Paul, Minnesota, April, 1983.

Yanz, JL, The application of the theory of signal detection to the analysis of speech perception. Ear and Hearing 5, 64-71, 1984.

Yanz, JL, and Anderson, SM, Comparison of speech perception skills in young and old listeners. Ear and Hearing 5, 134-137, 1984.

Yanz, JL, and Dodds, HJ, Evaluation of a new electrode for ABR measurement. Paper presented at the ASHA Convention, Cincinnati, Ohio, November, 1983.

Yanz, JL, and Carlstrom, JE, Quantification of speech perception in normal and hearing-impaired listeners. Paper presented at the ASHA Convention, Cincinnati, Ohio, November, 1983.

Yanz, JL, Objective measurement of auditory function in infants. Invited paper presented at the Fall Convention of the Iowa Speech Language Hearing Association, October, 1983.

Yanz, JL, and Dodds, HJ, A new electrode for the measurement of the human auditory brain stem response. Ear and Hearing 6, 98-104, 1985.

Prieve, BA, and Yanz, JL, Age-dependent changes in susceptibility to ototoxic hearing loss, Acta Oto-Laryngologica 98, 428-428, 1984.

Yanz, JL, Carlstrom, JE, and Thibodeau, LM, Self-assessment of communication skills: Toward the development of a new speech audiometric tool. In press, Ear and Hearing, 1985

Yanz, JL, New developments in neonatal hearing screening. Invited lecture in Dept. of Communicative Disorders, Univ. of Minnesota, Duluth, October, 1983.

Yanz, JL, Herr, LR, Townsend, D, and Witkop, CJ, JR., The questionable relation between cochlear pigmentation and noise-induced hearing loss. In press, Audiology, 1985.

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Yanz, JL, Fortune, TW, and Prieve, BA, Ototoxicity in the young mouse: Relation to noise-induced hearing loss. Submitted to Acta Oto-Laryngologica September, 1984.

Yule, G. Yanz, JL, and Tsuda, A., Investigating aspects of the language learner's confidence: An application of the theory of signal detection. In press, Language Learning, 1985.

Siegel, LG and Yanz, JL Pure-Tone Audiometry Simulation. Software for teaching and evaluating students in the area of audiological testing and interpretations. College-Hill Press, 1985.

GRANT AWARDS

Age Effects of Susceptibility to Noise-Induced Hearing Loss. University of Minnesota Graduate School Research Grant, 1979-1980.

Susceptibility to Noise-Induced Hearing Loss. University of Minnesota Graduate School Research Grant, 1980-1981.

Faculty Summer Research Appointments, University of Minnesota, Minneapolis, 1980-1981.

College of Liberal Arts Faculty Travel Grant, University of Minnesota, 1983

Single-Quarter Leave, University of Minnesota, Fall, 1984.

SERVICE CONTRIBUTIONS

Member, Department of Communication Disorders Executive Committee, 9/79-6/85
Member, Department of Communication Disorders Ad Hoc Committee on Audiology Curriculum, 1979-1981.
Member, Department of Communication Disorders Grievance Committee, 9/80-11/83
Member, Department of Communication Disorders Graduate Admissions Committee 1980-81, 1984-85.
Member, Committee for the establishment of acoustic impedance screening guidelines, Minnesota State Department of Health, 1979-1981.
Member, Task Force on Hearing Impairment, Minnesota State Department of Education, 1980-1981.
Coordinator of program at Spring Convention of the Minnesota Speech-Language Hearing Association, "Identification and Evaluation of Auditory Pathology in Infants and Young Children," April, 1983.
Consultant for the Albert Lea Public Schools in the development of audiological services, 1980.
Consultant for the Wasioja Special Services Cooperative, Zumbrota, Minnesota in the development of audiological services, 1980-1981.
Member, Rehabilitation Therapies Division Advisory Committee, St. Paul Rehabilitation Center, St. Paul, Minnesota, 7/82-10/83.
Member, Audiology Advisory Subcommittee, St. Paul Rehabilitation Center, St. Paul, Minnesota, 7/82-10/83.
Editorial Consultant, Journal of the Acoustical Society of America, 1984.

# VITA

Gary S. Rubin

## Biographical data

| | |
|---|---|
| Born: | March 31, 1952 |
| Address: | Department of Psychology<br>University of Minnesota<br>75 East River Road<br>Minneapolis, Minnesota 55455 |
| Telephone: | Office: (612) 376-8811<br>Lab: (612) 376-4992<br>Home: (612) 227-1204 |

## Employment

| | |
|---|---|
| 1985- | Assistant Professor<br>Department of Ophthalmology<br>Johns Hopkins University Medical Center<br>(effective November 1. 1985) |
| 1985- | Assistant Professor<br>Department of Psychology<br>Johns Hopkins University |
| 1984-1985 | Adjunct Assistant Professor<br>Department of Psychology<br>University of Minnesota |
| 1982-1985 | Research Associate<br>Department of Psychology<br>University of Minnesota |

## Education

| | |
|---|---|
| 1982 | Ph.D. , Experimental Psychology<br>Supporting program: Developmental Psychology<br>University of Minnesota, Minneapolis, Minnesota |
| 1976 | M.A., Psychology and Philosophy<br>Oxford University, Oxford, England<br>First degree classification in<br>Psychology and Philosophy |
| 1974 | B.A., Philosophy<br>Macalester College, St. Paul, Minnesota<br>Summa cum laude with Distinction in Philosophy |

## Grants and Fellowships

1983-1984 Interim Principal Investigator
The Role of Suprathreshold Contrast in Vision
National Eye Institute of the National
Institutes of Health

1981-1986 Co-investigator (with G. E. Legge)
Psychophysics of Reading: Normal and Low Vision
National Eye Institute of the National
Institutes of Health
(Interim Principal Investigator, 1983-1984)

1981 Association for Research in Vision and
Ophthalmology Travel Fellowship

1980-1981 Eva O. Miller Fellowship

1976-1980 Predoctoral Traineeship
Center for Research in Human Learning

## Honors

1976 Lincoln College, Oxford University Award for
Academic Achievement

1974 Phi Beta Kappa

## Teaching Experience

1979, Winter Instructor
Physics and Psychology of Light and Color
The School of the Associated Arts,
St. Paul, Minnesota

1978, Summer Instructor
Sensation and perception
University of Minnesota

1974, Winter Instructor
Ethics and Social Darwinism
St. Paul Academy, St. Paul, Minnesota

## Related work experience

1983-1984 Consultant
Operator Information Technology Division
Systems and Research Center
Honeywell
Minneapolis, Minnesota

1979 Research Associate
Operator Information Technology Division
Systems and Research Center
Honeywell
Minneapolis, Minnesota

Rubin

Professional Organizations

Association for Research in Vision and Ophthalmology
Optical Society of America
American Association for the Advancement of Science

PUBLICATIONS, PAPERS AND THESES

Publications

Rubin, G.S. Issues in low-vision research. Optics News, in press.

Legge, G.E. and Rubin, G.S. The contrast sensitivity function as a screening test: A critique. American Journal of Optometry and Physiological Optics, in press.

Legge, G.E. and Rubin, G.S. Psychophysics of reading. IV. Wavelength effects in normal and low vision. Journal of the Optical Society of America, A, in press.

Legge, G.E., Pelli, D.G., Rubin, G.S., & Schleske, M.M. Psychophysics of reading. I. Normal vision. Vision Research, 1985, 25 239-252.

Legge, G.E.. Rubin, G.S.. Pelli, D.G., & Schleske, M.M. Psychophysics of reading. II. Low vision. Vision Research, 1985, 25 253-266.

Legge, G.E. and Rubin, G.S. Binocular interactions in suprathreshold contrast perception. Perception and Psychophysics, 1981, 30 49-61.

Gottesman, J., Rubin, G.S., and Legge, G.E. A power law for perceived contrast in human vision. Vision Research, 1981, 21, 791-799.

Rubin, G.S., Becker, O.A., and Freeman, R.H. Morphological structure and its effect on visual word recognition. Journal of Verbal Learning and Verbal Behavior, 1979, 18, 757-767.

Goble, L.G., Williams, L.G., Pratt, P.D., Wald, J., Rubin, G.S., and Hanson, T. Human operators interface with FLIR displays. Final Report #79SRC54, Systems and Research Center, Honeywell, Minneapolis, Minnesota, 1979.

Papers and Abstracts

Rubin, G.S. and Legge, G.S. Predicting low-vision reading rates from measures of contrast sensitivity. Paper presented at Special Meeting of Optical Society of America. Incline Village, Nevada, March, 1985.

Rubin, G.S. and Legge, G.E. The role of contrast in low-vision reading. Paper presented at Annual Meeting of the American

Academy of Optometry. St. Louis, Missouri, December, 1984.

Rubin, G.S. and Legge, G.E. The effects of contrast on reading. Paper presented at Annual Meeting the Optical Society of America, San Diego, California, October, 1984.

Rubin, G.S. and Siegel, K.A. Recognition of low-pass filtered faces and letters. Supplement to Investigative Ophthalmology and Visual Science, 1984, 25, 71 (abstract).

Rubin, G.S. and Legge, G.E. The effects of contrast on reading. Journal of the Optical Society of America. A., 1984, 1, 1300 (abstract).

Rubin, G.S. Monocular suppression in the absence of binocular rivalry. Journal of the Optical Society of America, 1983, 73, 1924 (abstract).

Legge, G.E. and Rubin, G.S. Wavelength effects in reading: Normal and low vision. Journal of the Optical Society of America, 1983, 73, 1958 (abstract).

Rubin, G.S. Binocular summation in static noise. Journal of Optical Society of America, 1982, 72, (abstract).

Rubin, G.S. and Legge, G.E. Unequal perceptual latencies for sinewave gratings differing in contrast. Supplement to Investigative Ophthalmology and Visual Science, 1981, 20, 179 (abstract).

Rubin, G.S. perceptual dimensions of simple patterns varying in luminance and contrast. Journal of the Optical Society of America, 1980, 70, 1563 (abstract).

Gottesman, J., Rubin, G.S., and Legge, G.E. A nonlinear contrast sensitivity function for human vision. Supplement to Investigative Ophthalmology and Visual Science, 1980, 19, 43 (abstract).

Rubin, G.S. and Legge, G.E. Binocular contrast matching in human pattern vision. Supplement to Investigative Ophthalmology and Visual Science, 1979, 18, 245 (abstract).

Rubin, G.S. and Becker, C.A. Recognition of multimorphemic words. Paper presented at Annual Meeting of the Midwestern Psychological Association. Chicago, Illinois, May, 1979.

Theses

Rubin, G.S. Suppression and Summation in Binocular Pattern Vision. Doctoral Dissertation. University of Minnesota, June, 1982.

Rubin, G.S., Lexical storage of prefixed words. Honors Thesis, Oxford University, May, 1976.

Mark L. Norman III, M.D. VITA

| | |
|---|---|
| Born: | August 29, 1953, St. Paul, Minnesota |
| High School: | St. Thomas Academy, St. Paul, Minnesota, 1971 |
| College: | St. Thomas College, B.A. Biology - Summa Cum Laude. 1975 |
| Medical Education: | St. Louis University School of Medicine; M.D. degree, 1979 |
| Internship: | St. Louis University Hospitals, Internal Medicine, July 1979 - June 1980 |
| Residency: | Bethesda Eye Institute; St. Louis University, July 1980 - June 1983 |
| Current Practice: | 401 Medical Arts Building, 825 Nicollet Mall, Minneapolis, Minnesota |
| Hospital Affiliations: | St. Mary's Hospital, Minneapolis, Minnesota Metropolitan Medical Center, Minneapolis, Minnesota North Memorial Medical Center, Minneapolis, Minnesota |
| Previous Publications and Presentations: | 1) Bethesda Eye Institute Annual Meeting |

A) June 1981 - Cataract Extraction and Retinal Detachment, frequency and incidence

B) June 1982 - Topical Anesthetic Effects of Timolol

C) June 1983 - Papillophlebitis: A Benign Cause of Disc Edema

2) A comparison of methods of predictive pre-operative visual acuity in cataract patients. O'Donnell, F.E., Garvey, J., Norman, M., Kennos, S., Genzels, T.; pending publication, discussed in Ophthalmology Times, August 1983

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VITA (cont.)

Courses Attended:

1) Intraocular Lens Implantation and Extracapsular Cataract Extraction - annual course - August 1981, St. Louis, Missouri, St. Louis University

   A) Course director, David McIntyre, Robert Drew August 1981

   B) Course director, William Simcoe, Frances O'Donnell, August 1982

Vitrectomy for the Anterior Segment Surgeon, St. Louis University, February 1982, Course director, J. Flieschman, M.D.

Laser training during residency with Argon, Krypton, YAG

Board Certified: October, 1984

Appendix G1

# CORRECTIONS OFFICERS

## Basic Auditory Abilities

### Recommended Guideline

In each ear:

- Pure-tone thresholds not worse than 15 dBHL at 500, 1000, 2000, and 3000 Hz.
- Hearing aids are acceptable if candidate wears the hearing aid on the job and is able to meet the above guidelines with aid set at normal volume.

### Testing Specifications

Pure-tone thresholds to be measured:

- in a quiet room meeting ANSI S3.1 (1977) standards,
- using equipment calibrated to ANSI 3.21 (1978) standards, and
- by a certified audiologist.

### Experts' Comments

". . .suggest that hearing aid users do not be eliminated. . ."

"This criterion is based upon a relatively recent, and generally accepted, criterion for normal hearing in the (single) test ear."

". . .pure tone thresholds not worse than 15 dBHL seem a bit too stringent."

# CORRECTIONS OFFICERS

## Speech Perception

### Recommended Guideline

**QUIET ENVIRONMENT**

In either ear:

- Pure-tone thresholds not worse than 29 dBHL at 500, 1000, 2000, and 3000 Hz.
- Speech discrimination to exceed 75% at 50 dBHL in a sound field when using recorded CID W22 monosyllabic word lists.
- Hearing aids are acceptable if candidate wears the hearing aid while on the job and is able to meet the above guidelines with aid set at normal volume.

**NOISY ENVIRONMENT**

In the better ear:

- Pure-tone thresholds not worse than 20 dBHL at any 3 of the 4 frequencies of 500, 1000, 2000, or 3000 Hz.
- Speech discrimination to exceed 75% at 50 dBHL in a sound field when using recorded CID W22 monosyllabic word lists.
- Pure-tone thresholds not worse than 30 dBHL at any 3 of the 4 frequencies of 500, 1000, 2000, or 3000 Hz.
- Hearing aids are acceptable if candidate wears the hearing aid while on the job and is able to meet the above guidelines with aid set at normal volume.

### Testing Specifications

Pure-tone thresholds to be measured:

- in a quiet room meeting ANSI S3.1 (1977) standards,
- using equipment calibrated to ANSI 3.21 (1978) standards, and
- by a certified audiologist.

### Experts' Comments

"The 49% cutoff for the W22 lists seems lax: 50% is a 'poor' score -- 75%, as used for most of the other categories, is more reasonable."

"I am not convinced that the guideline. . .should be any different than that for a quiet environment. . .a person with pure-tone thresholds not worse than 29 dBHL should function reasonably well in a noisy environment."

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Appendix G2

# JUVENILE COUNSELORS

## Basic Auditory Abilities

### Recommended Guideline

In each ear:

- Pure-tone thresholds not worse than 15 dBHL at 500, 1000, 2000, and 3000 Hz.
- Hearing aids are acceptable if candidate wears the hearing aid on the job and is able to meet the above guidelines with aid set a normal volume.

### Testing Specifications

Pure-tone thresholds to be measured:

- in a quiet room meeting ANSI S3.1 (1977) standards,
- using equipment calibrated to ANSI 3.21 (1978) standards, and
- by a certified audiologist.

### Experts' Comments

". . .suggest that hearing aid users do not be eliminated. . ."

"This criterion is based upon a relatively recent, and generally accepted, criterion for normal hearing in the (single) test ear."

". . .pure tone thresholds not worse than 15 dBHL seem a bit too stringent."

# JUVENILE COUNSELORS

## Speech Perception

## Recommended Guideline

QUIET ENVIRONMENT

In either ear:

- Pure-tone thresholds not worse than 29 dBHL at 500, 1000, 2000, and 3000 Hz.
- Speech discrimination to exceed 75% at 50 dBHL in a sound field when using recorded CID W22 monosyllabic word lists.
- Hearing aids are acceptable if candidate wears the hearing aid while on the job and is able to meet the above guidelines with aid set at normal volume.

NOISY ENVIRONMENT

In the better ear:

- Pure-tone thresholds not worse than 20 dBHL at any 3 of the 4 frequencies of 500, 1000, 2000, or 3000 Hz.
- Speech discrimination to exceed 75% at 50 dBHL in a sound field when using recorded CID W22 monosyllabic word lists.
- Pure-tone thresholds not worse than 30 dBHL at any 3 of the 4 frequencies of 500, 1000, 2000, or 3000 Hz.
- Hearing aids are acceptable if candidate wears the hearing aid while on the job and is able to meet the above guidelines with aid set at normal volume.

## Testing Specifications

Pure-tone thresholds to be measured:

- in a quiet room meeting ANSI S3.1 (1977) standards,
- using equipment calibrated to ANSI 3.21 (1978) standards, and
- by a certified audiologist.

## Experts' Comments

"The 49% cutoff for the W22 lists seems lax: 50% is a 'poor' score -- 75%, as used for most of the other categories, is more reasonable."

"I am not convinced that the guideline. . .should be any different than that for a quiet environment. . .a person with pure-tone thresholds not worse than 29 dBHL should function reasonably well in a noisy environment."

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Appendix G3

## PROBATION OFFICERS

### Basic Auditory Abilities

### Recommended Guideline

No entry-level screening is recommended.

The job analysis data indicate, and the hearing experts concur that basic auditory abilities are not sufficiently critical for Probation Officers to require specific guidelines.

### Testing Specifications

### Experts' Comments

". . .agree that no guidelines are required under the first three dimensions of sound detection, sound localization, and sound recognition/discrimination."

# PROBATION OFFICERS

## Speech Perception

### Recommended Guideline

QUIET ENVIRONMENT

In either ear:

- Pure-tone thresholds not worse than 29 dBHL at 500, 1000, 2000, and 3000 Hz.
- Speech discrimination to exceed 75% at 50 dBHL in a sound field when using recorded CID W22 monosyllabic word lists.
- Hearing aids are acceptable if candidate wears the hearing aid while on the job and is able to meet the above guidelines with aid set at normal volume.

NOISY ENVIRONMENT

No guidelines recommended.

### Testing Specifications

Pure-tone thresholds to be measured:

- in a quiet room meeting ANSI S3.1 (1977) standards,
- using equipment calibrated to ANSI 3.21 (1978) standards, and
- by a certified audiologist.

### Experts' Comments

"In the interviewing and counseling tasks of the probation officer, it would seem that he or she would have the ability to seek at a quiet environment in which to carry out that couseling or interviewing."

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Appendix H1

# CORRECTIONS OFFICERS

## Near Visual Acuity

### Recommended Guideline

Near visual acuity of 1M as measured by Sloan M Cards.

Corrective lens are acceptable if worn on the job and if the candidate meets the above guideline.

### Testing Specifications

Sloan M Cards to be administered:

- at 40 cm reading distance, and
- illuminated to 85 $cd/m^2$.

1M acuity is the smallest test size that can be read with ease.

### Experts' Comments

". . .good acuity is not required in order to read proficiently."

"1M is roughly comparable to a Snellen acuity of 20/40, and should be satisfactory for reading most print materials."

# CORRECTIONS OFFICERS

## Far Visual Acuity

### Recommended Guideline

Best-corrected acuity of 20/20 measured in both eyes simultaneously.

Periodic visual screening of employees to ensure stability of far visual acuity.

### Testing Specifications

Far visual acuity as measured:

- using Landolt rings of Sloan letters as optotypes,
- with test sizes in logrithmic steps of approximately .1 on successive lines,
- with equal numbers of letters (8 or 10) per line,
- using black letters on a white background illuminated to approximately 85 $cd/m^2$,
- at a distance of 4 meters.

### Experts' Comments

"The 20/80 acuity cutoff for uncorrected vision would exclude a sizeable portion of the population."

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# CORRECTIONS OFFICERS

## Visual Color Discrimination

### Recommended Guideline

Using the Farnsworth D-15 test, more than two minor errors or one major error constitutes failure.

Candidates who fail the D-15 test should be retested with materials that are representative of the actual color discrimination tasks they will have to perform (e.g., clothing and medication).

Corrective lens are acceptable.

### Testing Specifications

Farnsworth D-15:

Illumination should be via a daylight color adjusted tungsten source providing at least 250 lux.

Color Samples:

Illumination type and level should be comparable to that encountered on the job.

### Experts' Comments

"The color vision standard. . .would exclude about 5% of the male population. . .but these individuals can generally use color names correctly in everyday situations."

". . .these individuals should (not) be excluded without some evidence to indicate that their color deficiency would result in errors on required tasks."

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Appendix H2

# JUVENILE COUNSELORS

## Near Visual Acuity

### Recommended Guideline

Near visual acuity of 1M as measured by Sloan M Cards.

Corrective lens are acceptable if worn on the job and if the candidate meets the above guideline.

### Testing Specifications

Sloan M Cards to be administered:

- at 40 cm reading distance, and
- illuminated to 85 cd/$m^2$.

1M acuity is the smallest test size that can be read with ease.

### Experts' Comments

". . .good acuity is not required in order to read proficiently."

"1M is roughly comparable to a Snellen acuity of 20/40, and should be satisfactory for reading most print materials."

# JUVENILE COUNSELORS

## Visual Color Discrimination

### Recommended Guideline

Using the Farnsworth D-15 test, more than two minor errors or one major error constitutes failure.

Candidates who fail the D-15 test should be retested with materials that are representative of the actual color discrimination tasks they will have to perform (e.g., clothing and medication).

Corrective lens are acceptable.

### Testing Specifications

Farnsworth D-15:

Illumination should be via a daylight color adjusted tungsten source providing at least 250 lux.

Color Samples:

Illumination type and level should be comparable to that encountered on the job.

### Experts' Comments

"The color vision standard. . .would exclude about 5% of the male population. . .but these individual can generally use color names correctly in everyday situations."

". . .these individuals should (not) be excluded without some evidence to indicate that their color deficiency would result in errors on required tasks."

## JUVENILE COUNSELORS

## Far Visual Acuity

### Recommended Guideline

Best-corrected acuity of 20/20 measured in both eyes simultaneously.

Periodic visual screening of employees to ensure stability of far visual acuity.

### Testing Specifications

Far visual acuity as measured:

- using Landolt rings of Sloan letters as optotypes,
- with test sizes in logrithmic steps of approximately .1 on successive lines,
- with equal numbers of letters (8 or 10) per line,
- using black letters on a white background illuminated to approximately 85 $cd/m^2$,
- at a distance of 4 meters.

### Experts' Comments

"The 20/80 acuity cutoff for uncorrected vision would exclude a sizeable portion of the population."

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Appendix H3

# PROBATION OFFICERS

## Near Visual Acuity

### Recommended Guideline

Near visual acuity of 1M as measured by Sloan M Cards.

Corrective lens are acceptable if worn on the job and if the candidate meets the above guideline.

### Testing Specifications

Sloan M Cards to be administered:

- at 40 cm reading distance, and
- illuminated to 85 $cd/m^2$.

1M acuity is the smallest test size that can be read with ease.

### Experts' Comments

". . .good acuity is not required in order to read proficiently."

"1M is roughly comparable to a Snellen acuity of 20/40, and should be satisfactory for reading most print materials."

# PROBATION OFFICERS

## Far Visual Acuity

### Recommended Guideline

Best-corrected acuity of 20/40 measured in both eyes simultaneously.

Periodic visual screening of employees to ensure stability of far visual acuity.

### Testing Specifications

Far visual acuity as measured:

- using Landolt rings of Sloan letters as optotypes,
- with test sizes in logrithmic steps of approximately .1 on successive lines,
- with equal numbers of letters (8 or 10) per line,
- using black letters on white background illuminated to approximately 85 $cd/m^2$,
- at a distance of 4 meters.

### Experts' Comments

"The 20/80 acuity cutoff for uncorrected vision would exclude a sizeable portion of the population."